

THE AMERICAN FARMER

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VOL. III.—No. 23.

Agricultural Matters Abroad

[By our correspondent in Paris, Nov. 1.]

MERINO SHEEP IN FRANCE AND SPAIN.—Some confusion appears to exist respecting French merinos, and which is calculated to lead opinion astray, as well as to lead foreign buyers of rams of that breed into error. I allude to the employment of the term half-bred, or crossed merinos. It was at the end of the last century and the early years of the present, that merino sheep were first introduced into France. The importations consisted of rams as well as ewes, but soon the arrivals were limited to the former. The native ewes when crossed with the Spanish merino, produced a progeny which for a time was certainly hybrid—a crossed breed. Now that time was limited; in other words, the substitution of the imported race, became by the continuation, or the constant crossings of each succeeding generation of hybrid ewes by pure rams, dominant in the third or fourth generation. It is now admitted, that the hereditary influence of the maternal stock, dies out at that third period. This elimination of the characteristics on the maternal side, may vary a little, following the greater or less powerful individuality of the ram, and the selection of each succeeding hybrid ewe. The dogma of pure blood is thus anything but indefinite.

Further, for many years the ancient half-bred French merinos, has ceased to exist, so that all the merinos, without distinction, enjoy the same faculty of transmitting their specific characteristics and attributes, either with respect to form or fleece. Precocity does not imply change of breed, but only an amelioration of corporeal form inducing earlier development. The Southdown merinos or the Dishley merinos, are in the true sense of the term, crossings.

It is a fact well known to all gastronomists, that the flesh of wild animals is more delicate and savory, than that of the same species domesticated. Two causes produce this difference; first, limitless liberty, and second, a greater range of food from which to select. Now this difference is not the less sensible with respect to the animal's hair or fleece, and the fact was shrewdly noticed in Spain from an early hour in the production of beautiful wool.

It was thus the association known as the *Mesta*, was founded. It was composed of the grandees, the influential monasteries, and other rich land owners, who became the joint owners of those immense flocks of nomadic sheep, which incessantly travelled from province to province, in an order most favorable to the seasons. In consequence of these migrations, the sheep enjoyed the same liberty as if in a wild state, and their fine wool rapidly became famous. The flocks thus united, were called *Merinos*—hence the origin of the name; they were also designated *trans-humantes*, because they travelled in summer, up mountains, and in winter in the valleys. Each flock was a sub-division of the *mesta*; there was a superintendent

on horseback, for every 50 shepherds; he directed all movements, selected the most grassy routes; he was besides a veterinary surgeon. The shepherds on setting out, as well as on returning, received an indemnity; in addition they had 2 lbs. of bread daily, independent of their wages.

In the sixteenth century the *mesta* comprised seven millions of sheep, cared for by 40,000 men. The *leonesa* is reported as the finest of merino. It passes the winter in Eestramadura, and migrates as far as to Old Castle. The *Soriana* brouses even up to the Pyrenees. While in the mountains, the sheep are liberally supplied with salt; this has been found to neutralize the effects of injurious plants. Towards the end of July, the rams, hitherto kept apart, are allowed to feed with the ewes. In September, the backs and flanks of the animals are rubbed with a solution of red chalk; the latter uniting with the oily matter of the wool, is considered to keep off humidity. Others are of opinion, the chalk absorbs the excess of transpiration, and so promotes greater fineness of fleece. In September also the flocks return to the plains.

During the month of May, and while travelling, the clip takes place. It is the same as the grain harvest, or the vintage in other lands. The operation is effected under sheds, capable of accommodating 50,000 sheep. Proceedings open with singing and dancing, in which owners and servants alike join. 120 men are told off per 1,000 ewes to clip, and 300 for the same number of rams. The clip accomplished, the wool is sent directly to the nearest port to be shipped abroad; that for home consumption, to the depots, where men separate it into different qualities with a surety of judgment which is never at fault. This classed wool is left to dry on hurdles in the sun and air, before being washed; then it is beaten with great care to get rid of all foreign matters. A second classification ensues, when a portion of the finest wool is set apart, to be sold for the benefit of souls in Purgatory.

In France, a kind of *mesta* exists, where the winter sojourn of the sheep is in the Bouches-du-Rhone, and in summer in the upper and lower Alps. In Italy the long chain of the Apennines, up to Naples, is so utilized. In Spain the flocks belong to the wealthy classes; in Italy it is opposite; here the shepherd is himself the owner, assisted by his patriarchal family extending to the fourth generation. These shepherds practice a co-operative principle to erect temporary shedding and choose common pasturage. The Italian sheep have no renown and their owners have very little that is poetical about them; they are clad in sheep's skins, and their bedding consists of a like skin, spread on the ground or a bench. Their dogs, however, are famous; they are white as snow, with long silky hair, and as large as Newfoundlanders: they are very courageous and strong, and lie in groups outside the flocks, following wolves with the agility of greyhounds.

OUT-DOOR ENSILAGE.—M. Rouvière is the founder and propagator of green fodder in

stacks in the open air, as M. Goffart is the apostle of ensilage. The plan of M. Rouvière has the important merit to cost nothing, and therefore there can be no excuse for not giving it a trial. And those who intend adapting ensilage, would be wrong to lay out money in constructing trenches, before having tested the Rouvière system. The chief difficulty in the case of the latter is, the difficulty of keeping the stack from inclining, if the work people are at all inattentive. M. Rouvière builds his stacks rectangular pattern, with three stakes driven into the ground on each side to guide the laborers, and which are ultimately pulled up. The stack is built to eleven or twelve feet, and the maize tipped from the wagons, on each of the four sides in rotation, to prevent the stack from taking a lean. M. Rouvière now recommends the employment of increased weight, instead of 16 cwts. per square yard, he adopts double that pressure, and in regular instalments of 6 cwts. daily. Thus he can correct any oblique tendency of the mass. His best-leaves were preserved in this manner equally as sound as his unchopped maize.

THE ECONOMIC PRINCIPLES OF STOCK AND THE MILK INDUSTRY, are more and more becoming the mainsheets of profitable farming. Special farinaceous preparations are sold for rearing calves, and so securing economy of the more valuable milk. Dried bullock's blood, is now advertised, not only for barn-door fowls and game birds, but for lambs, when two months old, calves, when four months, and foals, between two and three months; the commencing doses being respectively, one-third of an ounce, three ounces and one ounce, daily. The price is about 22 fr. per cwt. Blood is life. In the cider districts, the residue of the apple presses is made into feed with oil cake; the ingredients being separated by a slight layer of salt, which keeps the apple residue from turning sour. The mixture sells for one franc per cwt. In Normandy, milch cows receive excellent drinks, composed of the residue and bran, mixed with warm water. In the East of France, the residue is mixed with distillery grains, and given to horses and pigs.

KEEPING ROOTS.—Severe winters in France being habitual, do not allow of root-crops remaining in the grounds. The roots are generally stored in silos or pits. In case the latter exhibit indications of falling in, be sure decomposition exists; in this case, open the trench, remove the sound roots to a shed, and make the new pit more secure. Where stored in cellars, so long as the frost is not severe, let the air circulate freely. Some farmers leave the smaller roots during the winter in the soil, in order to utilize their sprouts for ewes in the spring. During winter, German farmers give their horses—which are not the less fatigued despite the fewer hours of work, every week small portions of salt mixed with oak bark, some juniper seeds and wormwood, reduced to powder. In Saxony an excellent practice prevails, that of taking the chill off the water supplied stock; frozen water often is

dangerous for cows in calf. For milch cows that have to put up with a dry diet, meal drinks are always supplied in a tepid condition; in the best dairy districts of Holland, Delft and Kampen, and even the once celebrated Triceland hay and linseed cake drinks constitute the chief winter feeding.

THE BEET SUGAR FACTORIES are at full work, but complaints are general that the yield of roots has been inferior this season. Some manufacturers are endeavoring to sell their sugar in the crystallised granular form, such as America presents her cane sugar in the market. If the public accept the new fashion, the makers will economise something in expenses.

ITEMS.—Touching the phylloxera, the insect continues to advance, only the more slowly as it marches to colder zones. The precautions to check its progress are severe, but it gains ground all the same. The vintage is terminated; the yield, save some local deceptions, has not been bad. Commerce is still slow to purchase new wines, however, some transactions for samples, under ten degrees of alcoholic strength, have been sold at 15 to 22 fr. per 22 gallons, above 10 degrees at 25 to 28 fr.

The parliament has cut down the budget of agriculture this session without mercy. The total estimates amounted to 25½ millions francs; it has been reduced by 2½ millions. But then the finances of France are not at all in a satisfactory condition.

The agitation is spreading for protection to agriculture; the government having protected all the other industries, the farmers see no good reason why their interests should not be shielded against foreign competition also. Live stock have been subjected to a higher customs' tariff, and also fresh and salt meats. Now the fight is over taxing cereals, 3½ fr. per cwt. and flour, 4½ fr. All this legislation, does not reduce the cost of living, nor does it produce work. The mean price of wheat in France is about 11 fr. per cwt. At Havre, India wheat is 10 fr.; American, 10½ fr.; Australian, 11 fr. Butter varies from 16 to 62 sous per lb.

Notes on American Farmer for Nov. 15.

Many of your readers doubtless would like to hear more fully from your Senior, upon the question, "What has been the agricultural progress in the United States during the past hundred years." No living editor is better prepared to answer such a question. I well remember the first sack of Peruvian guano I ever saw, and the years since then, though few when compared with your Senior's extended experience, are more than one cares to acknowledge. I remember also that at that time there were extensive tracts, in all the Eastern Shore counties, which were given over unfenced to sedge and scrubby pines. I also know that many of these same sedge tracts are now among the most productive lands of that section. I can remember also when a wheat crop of twenty-five bushels per acre excited more remark in many counties than one of forty bushels does now. I should answer Major

Poore's question as to the increase per acre, that so far as Maryland is concerned there has been a very large increase in the yield per acre in these localities where the agricultural improvement started by Peruvian guano has been followed up in an intelligent manner.

I hardly feel competent to discuss pure agriculture now-a-days with the Harford County Clubs of farmers, but I believe the majority of the Fallston Club favor the plan which I always esteemed the best, that is, not to plow a sod in autumn. The best results I have ever seen or had in growing corn on a sod were when the sod was turned in spring, put in order and planted as soon as possible thereafter. Clay land without sod is benefitted by fall plowing and replotting in spring, but this would make bad work usually with a sod. The best corn grower I ever knew always deferred plowing for corn until the last possible moment in spring, and then put every team he could get at work, so that I have known him to plow and plant a large field in a week. He never had a bad stand. In various parts of the Eastern Shore, near tidewater, there are larger tracts of stiff white oak soil, called pipe clay in some sections. This soil, if plowed in the fall and left flat during the winter, is injured for a long time. In fact there are few soils I believe on which fall plowing is not more a matter of convenience than profit.

I beg leave to differ decidedly even with such authorities as Waring and French, that porosity in the body of the tiles used for farm drainage is not at all essential. Few persons have any idea of the rapidity with which water will find its way through light burnt clay. A year or more ago in overhauling some large rain-water cisterns here I had constructed in one of them a filtering wall made of salmon bricks on edge, the joints being carefully made with hydraulic cement, so that all the water is compelled to pass through the body of the brick. I have observed this directly after heavy rains, which rapidly filled the outer part of the cistern, and the water in the portion inside the wall came within a few inches of keeping pace with the rise of that outside. I have seen a good deal of tile draining, and the main cause of failure in those that have failed has been the lack of attention in making the joints as tight as possible so as to exclude soil and roots. I believe that Col. Waring has also had this difficulty, for since writing his book on drainage he has patented a method of wrapping the joints of drain pipes with bandages of canvass, thus making them more impervious than the body of the tile. I am satisfied that your correspondent, Mr. Lacey, would be throwing money away to attempt to drain a piece of land, when much water is to be carried, with cement pipes. In swampy land, with a springy bottom, a drain made properly with chestnut poles will keep in good order longer than any tile drain in the same situation.

Without trying to advance any new theory as to the cause of the grape rot, I have been inclined to think that it was caused this season by the sudden variations in temperature at the time when the grapes were swelling. Many nights during this period were almost cold enough for frost, while the days were bright and warm. Those who bagged their grapes had fine fruit, as I have seen some that were so treated. The bags kept the fruit from suffering during the cold nights from the sudden shock of the low temperature. The bags may also have been the means of warding off the spores of fungus.

There is a great deal of humbuggery written and practiced in regard to tree pruning. I hold that an orchard tree that has been properly cared for from the time it was planted will seldom if ever need what some people call pruning. Of course if a

man wants to train his trees into fantastic shapes like the French growers do, he must do a great deal of pruning. But nothing so excites my ire as to see a "tree trimmer" otherwise called a "tree butcher" at work on an orchard. I have seen these fellows attack an orchard, and cut and slash great limbs off, until the trees look like they had passed through a western cyclone, and the owner hauled away the brush, feeling that he has done a good by having his orchard "pruned." I have seen this same class of men in the city, topping grand old trees along the streets and making people believe that this was the proper thing to do. When people become aware that for every large limb cut from a tree a certain portion of the roots which supplied it perished, they will see what a strain upon every tree's existence takes place when the "tree butcher" is turned loose in a city square. If a tree is in the way, take it out, don't top it.

W. F. MASSEY.

The Organic Elements of Plants.

By B. PURYEAR, LL. D., Professor of Chemistry in Richmond College.

No. 1.

Carbon, oxygen, hydrogen and nitrogen, constituting about 94 per cent. of the weight of plants in their dehydrated condition, are called the organic elements of plants. The remaining six per cent. constituting the ash, are derived from the soil, and are called the inorganic constituents of plants.

We purpose in this article, and others which will follow, to explain the properties of these organic elements, and to discuss the sources from which they are severally derived.

First in order is carbon. This element constitutes the frame-work or skeleton of all vegetable forms. When plants are deprived of water entirely, carbon constitutes half their weight. It forms therefore as large a part of the weight of plants as all the other constituents, organic and inorganic, put together. Carbon possesses some wonderful properties, which fit it for its important function in the vegetable economy. The most abundant form in which we see carbon is ordinary charcoal. In the making of charcoal, the more volatile constituents of the wood have been burned off, leaving untouched the skeleton of charcoal. This is accomplished by admitting air to a limited extent, the wood being covered with earth, but with air holes here and there. In consequence of this inadequate supply of oxygen, the more combustible elements of the wood are burned off, and the carbon is mostly untouched. If the wood has been burned in the open air, the carbon would have combined with oxygen and would have been converted into an invisible, inodorous gas, carbonic acid. As we shall have a good deal to say about this gas, it may be well to say that it is a compound made by the union of carbon and oxygen in the proportion of one atom of carbon and two of oxygen. Hence it is written CO_2 .

Let us notice some of the properties of this charcoal.

(1) It is a wonderful absorbent. The method of its manufacture explains why this is so. The more volatile gases of the wood have been burned or driven off, and hence the carbon contains innumerable vacant spaces, as the result. By virtue of these vacant spaces, charcoal can store away an immense volume of gases. The great German chemist, Liebig, estimates that a cubic inch of freshly burned charcoal contains 100 square feet of free surface. Hence the decolorizing and deodorizing power of charcoal. I have known hams slightly tainted to recover their sweetness entirely by packing them for a few days in pulverized charcoal. Putrid waters, when filtered through charcoal, come out clean

and clear. Hence the practice of charring the inside of barrels, which are to contain water, in long voyages by sea. Fresh charcoal absorbs in 24 hours, 90 times its volume of ammonia, 81 times its volume of sulphuretted hydrogen, and 83 times its volume of carbonic acid gas.

(2) The indestructibility of charcoal is another wonderful property. No acids corrode it, and, under ordinary temperature, it is absolutely indestructible in the atmosphere. Many interesting historical facts illustrate this property. The charred pillars of the theatres of Herculaneum and Pompeii, upon being exhumed in our day, were found, despite the lapse of 2,000 years, in a state of perfect preservation. In like manner, charred posts, supposed to have been planted in the Thames at the time of the invasion of the island by Julius Caesar, have been removed in the present century and were found perfectly intact. The city of Venice is built in the sea, the "stormy Adriatic," the houses standing on charred posts, which afford a foundation more imperishable than limestone or granite. Farmers char their gate posts to get the benefit of the indestructible power of charcoal or carbon.

(3) Another form of carbon is the costly and brilliant gem, the octohedral diamond. Are they indeed the same? Can it be possible that the sooty charcoal, which the begrimed vender retails about the streets for a few cents a bushel, can have any relationship to the dazzling jewel that flashes from the ears and from the neck of beauty? They are indeed twin brothers; chemically they are identical. Despite their obvious differences, yet when we consider them closely, points of relationship appear. When pulverized charcoal is rubbed between two plates of glass, the glass is found to be furrowed and scratched. Charcoal, like diamond, scratches glass. Again. Both are equally indestructible. A piece of charcoal will remain in the atmosphere forever unchanged, just as the diamond does. To change it, we must heat it to a high point, when it combines with the oxygen of the atmosphere, and passes off as carbonic acid gas. Diamond heated to a still higher point, likewise takes fire and forms the same gas. Indeed, equal weights of pure charcoal and diamond, when burned in oxygen gas, produce equal weights of carbonic acid gas, which is the supreme proof of their chemical identity.

If charcoal and diamond are the same, why then, in their ordinary aspects, are they so unlike. A few words will explain. What two things are more different, in their outward properties, than ice and water? And yet we know they are the same, and that they are constantly passing before our eyes, the one into the other. Take heat from water, it is ice; add heat to ice, it is water. A man who had never seen ice would find it as difficult to believe that water could take on the properties that belong to ice as some of us experience in attempting to realize that charcoal can assume, under certain conditions, the properties of diamond. An enterprising traveller from New England once told the king of Siam that in his country, six-horse wagons loaded with tons were driven in winter across the rivers; that the ice was as firm and unyielding as granite, and that their crop of solid water brought them more money than their grain. The story was too much for the king's credulity, and he rejected it as a traveller's yarn. And why not? What more unyielding than ice; what more unstable than water. Indeed, we speak of water as the very type of instability. "Unstable as water, thou shalt not excel," said the dying patriarch of his son.

Ice and water are fully as much unlike as charcoal and diamond. One word explains the whole matter. Ice is crystallized water; and diamond is crystallized charcoal.

Under what circumstances, in the past

history of the globe, charcoal was melted so that it could crystallize on cooling, it were useless in this connection to speculate. Crystals form only when there is freedom of motion among the molecules, and this freedom is found only in liquids. We bring solids to the liquid state in two ways: by melting and solution. When we succeed in melting carbon, or in finding a solvent for it, we shall be able to make diamonds at pleasure. As the molten carbon cools down to the point of satisfaction, the carbon may crystallize into diamond. As the solution of carbon evaporates, we will have diamond crystals, just as we have crystals of salt when all the water has evaporated from brine.

So much for the mere properties of carbon, which constitutes 50 per cent. of the vegetable world, and is indeed its frame-work; which, in its ordinary state as charcoal, is well calculated, by its remarkable properties, to arrest attention; and which, under certain conditions, is capable of passing, as we know in some remote geological epoch it has actually passed, into the regal form of diamond.

A Kind Opinion.

Dear Editor:—I cannot resist the impulse to tell you of a little remark I have just heard made about your truly excellent farm paper. You will pardon me, since I mean not the offence of flattery, but the simple truth of justice. Honor to whom honor is due, good old age is always honorable, and a long life, like that of THE AMERICAN FARMER, that has spent nearly the allotted term of human existence, threescore and ten, in the noble effort of trying to make the farmer's life a higher, more intelligent, more comfortable, and every way a better life than it used to be, is surely worthy of the approbation and gratitude and material encouragement of the honorable and wide-spread class for whose benefit it has worked so long and so creditably.

The little remark was the more noticeable since it came from one who lives in the country, is devoted to country interests and pursuits and is in more ways than one a good judge of matters.

In the course of conversation his remark was this: "Well, I have been examining some of the leading agricultural papers with a view to their relative worth, and I really think our good old AMERICAN FARMER hold its own with the best, and while it is half the price, it is double the value of most of them."

A FRIEND.

Nov. 14, 1884.

The Gunpowder Farmers' Club

Met November 29th, at the farm of Samuel M. Price. Mr. Price is one of the oldest members of the club, and probably one of the most successful, as was evidenced on every side by well-filled barns, fat cattle and well cared for sheep, on every sign evidences of plenty, good management and thrift.

The inspection showed the usual good order maintained of farm, barns and stabling; implements under cover, corn all housed, and every preparation complete for winter.

The Club, after the usual half hour for questions, discussed the cost of raising wheat. Although the estimates on different items of expense varied, it was somewhat remarkable how nearly many of the members coincided in their estimate of the cost of producing a crop of wheat. Owing to the late date of the meeting we cannot give a full account of the discussion, but we may present the figures hereafter.

EUROPEAN crops will be about an average; 260,000,000 bushels of wheat will be required above production.

Steam Plow of Messrs. Frick & Co.

In our issue of November 1st, Dr. Puryear, in his review of the Virginia State Fair, gave a report as to the work done by the steam plows on exhibition, commending especially the good work done by the Eclipse outfit of Messrs. Frick & Co., of Waynesboro, Pa.

We give an illustration of the Eclipse Engine and Gang Plow. Messrs. Frick & Co. claim that they are the first manufacturers to produce in this country a successful steam plowing outfit, and one which commends itself for practical use by the great simplicity of the device for drawing and operating.

Attached to the sills or frame supporting the boiler and platform, are wrought iron bars to which is fastened a diagonal beam of iron tube (securing lightness and great strength) and this beam is carried by three light iron wheels. The plows are attached to this diagonal beam by an ingenious device that allows of their being "cant-ed" in either direction or of the plow points being raised or lowered, as the case may be. The plow beams are attached to these by strong wooden pins, so that no damage can occur if a hidden rock is struck, for then the pin breaks and the plow is dropped. Each plow is fastened by a chain to the hoisting beam and all are raised any desired height automatically by steam power by the simple movement of a small lever. This entirely deprives the gang of the serious objections made against others, which have to be raised by hand power, requiring much labor and time. By this simple and effective device, they say the management of engine and plows is done by two men, and the next important feature is, that thus the entire gang is suspended clear of the ground and carried anywhere by the engine. No corners are left in the field, for the plows can be backed close against the fence, then lowered and the engine started.

To show then what has been accomplished with "Eclipse" Plowing Engine and Plows, they give the following calculation:

There are 1760 yards, or 5280 feet in a mile, and our engine hauling six plows will cut a furrow seven feet wide, giving us 36,960 feet in length of a mile. The engine under ordinary conditions will, when plowing, travel two miles per hour, so we have 73,920 square feet plowed in one hour, and a day's work of ten hours gives us a grand total of 739,200 sq. ft. Next there are 43,560 sq. ft. in one acre, and if we divide 739,200 feet plowed in 10 hours, of actual work by the number 43,560 square sq. ft. to an acre, we find we have plowed 16.9, or say seventeen acres in a day; and they suggest it must be borne in mind that the first cost of engine and plow gang must be compared with the first cost of horses or mules, the plows drawn by them and the cost of keeping and feeding the animals, and, finally, the number of men necessary to do the plowing with teams, because the engine not only costs nothing when not in use, but can be and is daily used for many other purposes.

Messrs. Frick & Co. claim they are no longer dealing in experiments, for as a result of many trials and of a very careful study of the subject, their machine is a success.

Joshua Thomas & Bro., 58 Light street, are the agents in Baltimore.

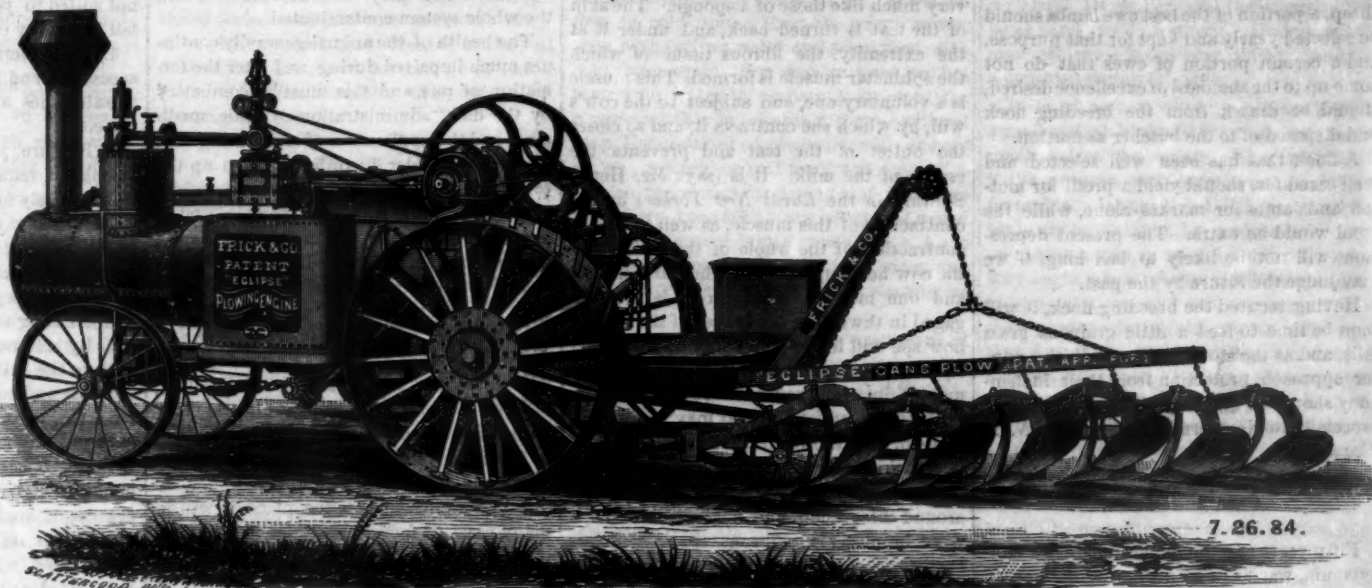
Winter on the Farm.

While the summer has its many beauties and comforts, it also has a multitude of cares calling for wearisome labor week after week, month after month; from the coming of the springtime until the harvest is all garnered and the doors are firmly shut to shield the precious store from the destroying elements. Summer is the season of especial care and labor to the husbandman, and the winter should be a comparative time of rest.

The watchful farmer finds but little, if

there is always found some new idea, and their columns are ever open to the person who has an experience to give, either in the management of his crops or stock, or anything pertaining to the interests of his fellow farmers. The social meetings from house to house; the evening games at the fireside with the children also tend to shake up and renew the system, to give new life to the body, and take the wrinkles out of the face.

Music, both vocal and instrumental, in the home circle, when the family is gathered around the lamp, and the chilling blasts are



7.26.84.

any, time when his cares are not numerous, but he may so completely master his position as to be enabled to let the physical nature rest and regain its wonted vigor. But little more should require his attention in winter than the care of the stock; this is a pleasant task, and one that pays well for close observation, and brings heavy loss if neglected. This work should be so systematized that the flock master and herd keeper finds himself at liberty between the hours of nine in the morning and four in the afternoon, and with the evenings to spend with his family or at some social gathering where matters of general interest may be discussed.

We look upon it as being a positive sin for any man to make a slave of himself, taxing and wearing out his strength through avarice, and crippling and stultifying his mental faculties until he hardly represents the species to which he belongs. There is no economy, no gain and no comfort obtained in such a life unless it be in satisfying the cravings of a morbid nature. The man who thinks, is the man who finds the avenues that lead to fortune, and finds those most agreeable to travel. The self-made sluggard and the self-made slave should almost go hand in hand, so far as their moral worth is concerned, and the latter is no better than the first, unless something of a credit may be drawn from a mistaken ambition.

Now, we do not decry labor, for nothing is more noble, and our picture is for the being who closes his ear against intelligence, and leaves all the propensities of his nature that makes man manly undeveloped, causing himself to be a serf and a blot upon the world of rational activity.

As we before hinted, the summer has such a multiplicity of cares and pressing duties to be performed that the husbandman finds really but little time for amusement and thorough culture, but the winter may, and should be his season of rest, culture and mental enjoyment. A well conducted farmer's club opens up a wide field for vigorous thought, and through the interchange of experiences and ideas a profitable store of useful information may be gathered in. Good agricultural papers do the same, for in

whistling without, has an elevating influence that makes one better satisfied with life and firmer in purpose. If the parents cannot sing or play themselves, they should be none the less anxious to have their children learn. It is a false idea that an accomplishment in musical arts unfits a person for the more rugged pathways of life; music refines and elevates the same as a classical education, and because city belles and exquisites play the piano and do but little else—indeed, are fit for little else—is nothing more against the power, beauty and usefulness of music than it is against reading, because these worthless butterflies spend half their hours pouring over sensational novels.

Show us the farmer's home where books, papers and music enliven the winter fireside, and we will show you one of the happiest spots on earth.—Selected.

Live Stock.

Crossing on Merinos for Wool and Mutton.

Following the lead of Mr. C. Hills, I venture to offer a few remarks as to the best mode of crossing on Merinos for mutton sheep. I scarcely think the Downs, any of them, would answer well, as they are not very large and they approach too near the Merino in denseness and fineness of fleece. I have used the Downs on Leicesters and their grades with advantage in producing finer wool for family use and also superior mutton; but the sheep that pleased me most of all for general use was obtained by using a Cotswold ram on pure Southdown ewes. The result was a finely-formed sheep of excellent quality of mutton, with dense, moderately long, crinkled wool, of great luster and fineness. The fleece of a lamb (accidentally killed by dogs in the fall) weighed, when well washed in warm water, 11½ pounds. Now I feel confident that the Cotswold would cross equally as well on the Merino, giving the produce the size and aptitude to fatten desired for a mutton sheep, and produced a fleece of good, serviceable and lustrous wool, which if produced in sufficient quantity, would surely find a market for the man-

ufacture of certain classes of goods. The whole region interested should adopt one standard of crossing, so as to make the produce of wool uniform. It won't do for one county to use Down rams, another Cotswolds, and still another Lincolns or Leicesters, as a nondescript clip will result that buyers will not care to handle. Mr. J. Harris, of Rochester, used Cotswolds on Merinos with the very satisfactory results mentioned by Mr. Hills.

If in a few generations the sheep get too coarse to suit the market, a cross back on Merino or a Southdown cross would do the

work, and add to the quality of the mutton. I write from personal experience, having handled cross breed sheep for twenty-five years, bred simply for good mutton and wool for family use. But mind one rule, never use grade rams. If you do, you will not be able to name the progeny, they will be so various.—Cor. Breeder's Gazette.

Lambs and Mutton for Market.

The present time is one of general depression in the price of wool, while lamb and mutton, as dressed meats for the city or country markets, bring a remunerating price to the producer. This is especially true of those near city markets in the Eastern and Middle States; and in favored localities the keeping of sheep and breeding of lambs for early market is very profitable.

In view of the low price of wool, there seems to be a desire on the part of many farmers to dispose of their flocks of sheep altogether. Having had some experience in breeding and fattening sheep for their flesh, both as lambs for early market, and mutton for winter and spring market in Central New York, I will offer a few suggestions to flock-masters that I think it will be more for their interest to follow than to sell their flocks outright.

In the first place, I would advise the sale of all the old ewes, and the retention of the best of the flock as breeders. Or if a new flock is to be started, then do not purchase any old decrepit ewes to breed from. Young, healthy ewes are the only ones that should be kept for breeding purposes, if a strong and healthy flock of sheep is desired, and no breeder should be content with any other, if he wishes to succeed in that business. Having secured his flock of ewes of the best he can obtain, the next step is the ram most suitable for his purpose. If the purpose is to raise early lambs for market, some one of the mutton breeds, so-called, should be selected. Some branch of the Downs, Shropshire, Hampshire, Oxford, or South Down, will be very desirable for that purpose, though the Cotswold, Leicester or Lincoln may be preferred by others. Whichever breed is chosen,

the selection should be made of a young, strong, healthy animal. It is claimed that the male is one-half the herd or flock, considered with reference to breeding purposes. If that is so, and it certainly approximates to that, then the selection of the proper ram to be used for successful breeding purposes should be made with the greatest care, and when selected, he should be used with care, well fed and carefully handled. The lambs should also be fed by a careful, quiet person, so that they will be tame, and thus attain their growth in the shortest possible time to fit them for market.

If it is desired to build up a fine flock of sheep, a portion of the best ewe lambs should be selected yearly and kept for that purpose, and a certain portion of ewes that do not come up to the standard of excellence desired, should be drawn from the breeding flock and disposed of to the butcher as mutton.

A flock that has been well selected and well cared for, should yield a profit for mutton and lambs for market alone, while the wool would be extra. The present depression will not be likely to last long, if we may judge the future by the past.

Having secured the breeding flock, it will soon be time to feed a little grain as grass falls, and as the storms of late fall and winter approach, protection from their inclemency should be given by all good shepherds, especially in Northern latitudes.—*Cor. N. Y. Examiner.*

Oxen and Mules.

Fifty years ago the ox, even here in Pennsylvania, was to be seen upon almost every farm. People plowed with them, did all their hauling with them, and with the exception of a horse for driving, or perhaps two for going to the city markets, the horse had to take a back seat. After that date the horse began to supersede the ox to a certain extent, but more and more each year. Subsequently the mule began to make its appearance and to steadily take the place of the horse, until it was believed that in a little while the only horse on a farm would be one kept for family driving.

It must be admitted that the mule is a very strong animal, and will live and grow fat on food that a horse would succumb to and perhaps sicken on. He will live longer as well as work harder, and as a general thing his first cost is less than the first cost of a horse. They are bright and easily taught, and indeed will do many things that are quite incomprehensible to the horse. And as for the oxen, they are patient, strong, enduring and moderate feeders, and after they get on in years they can be fattened and sold for the shambles, and takes its rank among the best meat in the market.

These arguments in behalf of the ox and the mule we have often read, and know of many people who have been convinced by them and procured for their farms one or both, and were well satisfied with them. Nevertheless, in time they had both disappeared from perhaps neighboring estates, and the old, discarded horse has made its reappearance and taken their places. It is soon found out that the horse can do all that both the others can do in a general sense, and a great deal more in most other things; and where there is a general routine of work to be done, one thing that can do all or the most of them well enough, is better than a great number of things each well adapted to its particular purpose. And this is the case with the horse.

A dozen years ago, we may repeat, the mule was in great favor, and it looked as if it was to supplant the horse almost entirely. But since then the horse has gradually but steadily regained its most favored position, and to the same extent the mule has been relegated to its less conspicuous place. And so we believe it will continue to go on.

The horse is altogether indispensable; and however necessary or convenient it may be to use a team of mules for certain purposes, we regard it as quite out of the question that the time has yet come, or believe that it will ever come, when the horse can be set aside, and its services can be dispensed with for that of any other working animal.—*German Telegraph.*

The Cow's Udder.

The cow's udder, with its teats, is not a mere vessel with pipes for outlets, but a mass of intricate ducts, which run together very much like those of a sponge. The skin of the teat is turned back, and under it at the extremity, the fibrous tissue of which the sphincter muscle is formed. This muscle is a voluntary one, and subject to the cow's will, by which she contracts it, and so closes the outlet of the teat and prevents the escape of the milk. It is (says Mr. Henry Stewart in the *Rural New Yorker*) by the contraction of this muscle, as well as by the contraction of the whole of the udder, that the cow holds up her milk when so disposed, and one may see, when a cow is thus engaged in thwarting the desires of the milker, how she will lift up the udder and contract it, and so draw together the sponge-like mass of ducts and cause it to retain the milk.

The structure of the teat may be thus explained. In the centre are the lactiferous ducts which run into each other in precisely the same manner as the cells of a sponge; around these ducts and holding them, as it were, in place, is a fibrous tissue which is extremely elastic, which is a part of the fibrous structure of the udder. Around this mass of tissue and the connecting ducts which ramify through it, is a layer of glandular tissue which is the same as that of the udder. These glands are made up of vesicles clustered upon fine tubular ducts, like grapes upon their stalks, secreting the milk which flows through the fine ducts into the larger ducts, where the milk secreted from these glands meets the milk which flows down from the udder, so that the teat is really a part of the udder and does its part in producing milk, and is not a mere channel for its passage from the udder. A section of the udder, in fact, shows a very similar structure, in each of the glands or quarters, to that of the teat, and the teat really differs from the udder in its structure only at its extremity, where the real channel for the escape of the milk is very short and no longer than the thickness of the muscular covering.

For these reasons one should be very cautious about interfering with the operation of the teat, and especially in trying to push anything in to it. At times it is necessary to do this, but quills and straws are extremely objectionable. But every one who owns a cow should have and keep a silver tube expressly for this purpose, as he may never know the day when he will want to use it.

Treatment of Garget.

Treatment of inflammation of the udder and its sequels, of course, must be varied as the circumstances of the case may require. If slight in its attack, the administration of a purgative dose of salts, and bathing the parts with tepid water, will often be found sufficient for its removal; but in the more aggravated form a repetition of purgative medicine, such as equal parts of Epsom salts and flour of sulphur, combined with a little ground ginger and caraway seeds. The udder should be more frequently bathed with tepid water, and if the bowels respond tardily to the medicine, or if at first they are constipated, which is generally the case, give frequent injections of soap suds or salt water per rectum.

A poultice applied to the udder is of great service, but there is some difficulty in properly adjusting it; probably one of equal

parts of flaxseed meal and bran, made into a soft paste with warm water, will be found to answer better than anything else. Febrifuge medicine, such as nitrate of potassium, in doses of from two to four drachms, and tartarized antimony, from one-half drachm to one drachm, combined with a carminative, may be given once or twice a day in a little thin gruel from a bottle, after the action of the purgative medicine. Should pus be discovered within any part of the gland, plunge the lancet in, and a free exit is immediately given to it. By allowing it to remain in until the abscess bursts by its own accord, it may become absorbed, and the whole system contaminated.

The health of the animal generally continues much impaired during and after the formation of pus, and this must be combated by the daily administration of tonic medicines and the application of stimulating liniment to the udder, in order to keep up the tone of the system. If a still more formidable termination is suspected, namely, that of gangrene of the part, we must immediately suspend our febrifuge medicines, and commence with tonics and diffusible stimulants such as sweet spirits of nitre, tincture of opium, ginger and caraway seeds. The animal must be supported by a liberal supply of nutritious food which is easy of digestion, such as steamed or cooked grain, together with sliced succulent roots. If the appetite be entirely gone, oatmeal gruel should be freely and frequently administered.

After gangrene has taken place, it will in many cases be found best to let nature have her own time to cast off the dead portion. The sloughing process, however, is unquestionably a very slow one in the bovine tribe; but it may be much assisted by occasionally stimulating the part with a liniment composed of equal parts of oil of turpentine, olive oil and liquor ammonia, and paying great attention to keep up the tone of the system of the suffering patient. After the sloughing has been completed, the healing process is equally tardy; but it will be greatly assisted by applying to the wound, daily, equal parts of finely powdered alum and myrrh, after previous cleansing.

In case of a portion of the udder or sphincter of the teat becoming scirrhus or "callos," benefit may be derived by the continued use of an ointment of iodide of potassium, mixed with mild ointment of mercury, say, in the proportion of one part of the former to eight parts of the latter, this being well rubbed on the affected part twice a day, at the same time administering internally, once or twice daily, iodide of potassium in doses of from one scruple to half a drachm, dissolved in sweetened water.—*Exchange.*

Hog Cholera.

A farmer recently stated in the *Sun* that as the result of ten years' observation he was convinced that the chief cause of the prevalence of hog cholera was the inadequate supply of water in hot weather. Our hogs are supplied daily with plenty of spring water, yet we have lost scores of them during the past year, both in winter and summer. Possibly the withholding of water might aggravate the disease, but it is difficult to believe that neglect in watering had anything to do with the loss of so many fine hogs on the estates of Ex-Governor Hamilton and others.

J. W.

For Navicular or foot disease, get one ounce of white vitriol, pulverized fine; one ounce of alum, burn and pulverize fine. Mix and sprinkle in the affected parts; repeat for three mornings or until the humor is killed; then fill the frog with pine tar and pack with tow so as to keep dirt out; stand in clean stall. Give some good condition powder for the blood and digestive organs.—*Western Rural.*

The Dairy.

Brief Rules for Dairying.

The following rules are copied from a pamphlet just issued by Dr. J. B. Marquis, of Norwich, N. Y., describing his process of butter and cheese making:

BUTTER MAKING.

1. Decide your line of dairying—butter or cheese, or both.
2. Select your cows according to the line of dairying chosen.
3. Test each cow separately, and reject all not suited to your line of dairying, or that fail in quality or quantity of milk.
4. Feed liberally, have pure water always accessible, and keep a mixture of equal parts of salt, ashes and sulphur within reach of the cows.
5. Be sure your stables are thoroughly ventilated, remove all droppings immediately, and freely use absorbents and deodorizers—such as saw dust, dry earth or cut straw, never omitting a liberal use of plaster.
6. Be scrupulously clean in every particular, both in keeping the cows and in milking and handling milk.
7. By all means, avoid exposure of the milk to the hot sun and to foul air.
8. Air and cool your milk as fast as possible down to at least 70 degrees if you carry it any distance to a factory or creamery. Do the same if you make it into cheese at home, though you need not go below 80 degrees, if made up immediately.
9. When milk is kept over night to be carried to a factory, the temperature should be reduced as low as 60 degrees.
10. If milk is set at home for cream, the sooner it can be set after milking and the higher the temperature the better, as cream rises best and almost wholly while the temperature is falling.
11. Never reduce the temperature below 40 degrees, as a lower temperature has a tendency to chill the product and injure its keeping quality, and it expands the water, rendering its relatively greater density less instead of decreasing it. To go 5 degrees below 40 degrees would have practically the same effect as raising the temperature 5 degrees, and to that extent retard the rising of the cream.
12. Skim as soon as the cream is all up, or so much of it as you wish to take from the milk.
13. Keep your cream, if not churned immediately, at a temperature of 64 degrees or below, but not below 40 degrees.
14. Churn at such a temperature between 55 and 64 degrees, as experience shows you is best. Conditions vary the temperature for churning.
15. Stop the churning when the butter is in granules about the size of wheat kernels.
16. Draw off the buttermilk and wash in clean water before gathering the butter, until the water runs clear. If one washing is in brine, it is all the better, as brine coagulates the cheesy matter, which dissolves and is then washed out.
17. Salt to suit customers, using none but refined salt made for dairy purposes. The best American salt is as good as any.
18. Put up in such packages as are demanded by your market. If for long keeping, pack in firkins, set in a cool, sweet place, and keep the butter covered with brine.

CHEESE MAKING.

19. Milk for cheese making—whether whole or partly skimmed—should be perfectly sweet.
20. Set your milk at a temperature of 84 degrees or above. Rennet is most active at 98 degrees, or blood heat, above which temperature should not be much raised. A temperature of 140 degrees will kill the rennet.
21. Add rennet enough to make a firm curd in 30 minutes or an hour.

22. Cut this curd as soon as it can possibly be done without waste, and cut fine and finish at once.

23. Keep the temperature as evenly at 88 degrees as possible, until the curd is fit to dip and salt. Cheddar or cook in the whey, as preferred.

24. Practice alone can teach when to dip, something depending on whether a soft or firm cheese be desired.

25. The cheesing process depends a good deal on the relative per cent. of water to caseine. If there is too little water the cheese will cure slowly and be dry, crumbly and have little flavor. If there is too much water, destructive fermentation will set in and the cheese rapidly decay, if it does not sour and leak.

26. An even temperature is indispensable for curing—as low as 65 to 70 degrees for whole milk cheese, and as high as 75 to 80 degrees for skimmed—according to the degree of richness.

CLEANLINESS.

27. It is not possible to be too particular about cleanliness. But cleanliness, Governor Seymour says, is a comparative term, and what is clean to one is dirty to another.

28. Carefully brush the cow's udder; if it is befouled, wipe it before milking.

29. Keep all hairs and loose dirt out of the milk, that no filth may dissolve in it. No strainer can take out what is dissolved.

30. Use a fine, soft cloth strainer besides the wire strainer.

31. Keep your milk away from all contact with foul or disagreeable odors, as the fats absorb all odors and impart them to the product.

32. Wash in tepid water every dish, implement or utensil that comes in contact with milk or its products. Then scald in boiling water or with steam, after which rinse thoroughly in cold water and expose them to pure air (and sunshine if possible) until needed for use.

Winter Treatment of Milch Cows.

The aim in the treatment of milch cows in the winter, should be to continue the conditions of summer as nearly as possible. This requires comfortable quarters, not only against the inclemency of the weather, but in all else that relates to the well being of the cows—such as warm stables, but not too warm; ventilation, to control temperature and admit fresh air, but not directly on the animals; floor well littered with fine vegetable material, to absorb fluids and odors, aided by plaster, thus securing a clean, dry, soft bed to lie and stand on; carding; plenty of good water, conveniently obtained; occasional out door airing and exercise, without rash exposure to cold and wet, getting as much sunlight as possible and avoiding great changes of temperature; kind treatment, making the cow feel at home. Give food to meet her requirements; if in calf, let the nitrogenous element be well represented, and let the feed be largely of a succulent character, to keep in line with the summer diet, such as roots or ensilage, with early-cut clover well cured. Feed early and late, and a few times during the day, keeping the cow mostly employed with slight feeds between the two principal rations, the night serving for rest. Begin the winter feed early, in order to avoid exposure to inclement weather, and to realize a late fall and early winter harvest of butter, for which a superior price is obtained.

It is a great fault with many farmers to allow their cows the range of the farm, thus getting more exercise than is good for a milch cow, trampling the fields and making muddy paths, while the frost-bitten food that they pick is of reduced benefit, and leaves the fields bare and exposed to the winter's severity. It is an error to suppose that late grass, frost-bitten and bleached, is of more value as feed than for protection and plant

food. Leaving the grass unfed is in effect green manuring without the expense of turning it under.

By thus favoring our fields, we at the same time favor our cows also. By putting them up early requires attention, but pays well, as now the time can be well afforded, and the cows are continued in good condition without break, yielding a continued liberal supply of milk. All rash changes in feed and in treatment should be avoided, and above, all, do not intermit the kindness in the least, without which a milch cow will never do her best. There is nothing new in all this, which makes it so much the better, as it has the experience of the most successful dairymen, yielding the largest quantity of the best milk and an increased percentage of butter from it, besides benefiting the cows.—*Cor. Country Gentlemen.*

Working Butter.

Butter should be "worked" just enough to evenly distribute the salt through it. If the churning is stopped while the butter is in the crummy or granular form, and it is then thoroughly washed in clean water or brine, there will be no necessity for working it to get out the buttermilk, as there will be none to remove. Butter that is spread out on a butter worker, or on any suitable platform, and pressed into thin sheets, and then folded upon itself three or four times as the salt is sprinkled on, will be very evenly salted.

Butter that is unevenly salted will be streaky and marbled, because salt butter has a deeper color than unsalted. If a mass of butter is worked in a bowl or worker so small that the butter cannot be spread out into thin sheets, it is possible to paddle it over a long while without getting the salt into every part. Butter that is gathered in the churn before the buttermilk is drawn off, may be worked to advantage for the purpose of squeezing out the milk that should not have been allowed to be shut into it, but such a process requires hard work, while at the same time it injures the quality of the butter. It is the milk in butter that first causes it to change from good to bad.

Mr. L. B. Arnold, in a recent conversation, told us that he had fully solved the problem of how to keep butter sweet for an indefinite period, by taking it from the churn in the granular form, and after rinsing it sufficiently in water or brine, packing it in firkins of strong brine without any working whatever. We ate butter at his table, that was free from the first suspicion of rancidity, that had been made many months, and kept in brine in the granular form till a little while before being wanted for use. He related a remarkable instance of a lot of butter taking the first premium at a public exhibition two years in succession, which was certainly a very severe test when shown against new butter of high quality. We must learn to work our butter less, but have it more free from buttermilk.—*N. E. Farmer.*

Some Requisites of a Butter Dairy.

The following hints are condensed from an extended article on this subject in the *New York Tribune*, written by Mr. Richard Goodman, Jr.:

Remove pails from stable as soon as filled, or place beyond the reach of stable odors and dust. Never use the froth to moisten the men's hands or the cat's tongue. Keep the milkers—with their dirty boots covered with liquids and solids from the bare floor, and their clothes with cow hair, scurf and dust of dry cow manure—out of the milk room. Milk rooms in New England, New York and the West must be above ground, as the best cream cannot be raised below ground. Build of wood, lath and plaster, securing one or two good air spaces by back

plastering, or use of good odorless sheathing paper under clap-boards, and nailed to studing midway between the lining boards and the lath.

Cracks in floors—whether of wood, brick or stone—are apt to accumulate no end of decaying matter. Cracks in walls or ceilings may cause currents of air, bringing dampness or mold, dust or mustiness from cellar or garret, or sundry smells from other parts of the house. The outdoor air should not be poisoned by ground slops, cesspool, privy, hog pen, hen house or stable odors.

Keep utensils clean—tin washed and sunned, wood washed and aired. Wash tin first in cold water, then in warm water, then with boiling water and soap, then with cold water again. For wooden ware use hot then cold water in preparing for use; the reverse of this in cleaning them—without soap. Use castile or odorless olive soap, and not yellow, grocery, or half-made soft soap. Use tough linen towels for drying utensils. Keep salt where it cannot absorb odors, and guard against bitterness, lumps or pan scales. Keep the butter color free from mold or must, and refrigerators clean with as little washing as possible.

Set Jersey milk in shallow open pans at 60° temperature to obtain firm, waxy grain, and sweet nutty flavor. Skim at thirty-six, twenty-four or twelve hours according to temperature. Better butter is produced by open, shallow setting at 60° temperature, even with milk of native cows; and better even than with centrifugal separator.

Setting milk, ripening cream, and churning and working butter should all be done in a temperature as near 60° as possible, without variation from the time milk is poured into pans until butter is put into ice-box. Use a churn which will permit the granulation, washing and half the working before it is taken out into the butter worker. Many a churn will spoil the grain of butter quite as quickly as most patent workers. Butter made after these rules will bring 50 to 75 cents per pound.

Poultry Yard.

Poultry Exhibition.

The Baltimore Poultry and Pigeon Club will hold their next annual show in this city, January 13th to 17th, 1885, at Oratorio Hall. There is at present every indication of having a good display, as there are now bred in Virginia and Maryland as fine poultry as in any portion of the country. Premium Lists can be had by addressing the Secretary, T. W. Hooper, 36 P. O. Avenue, Baltimore.

Early Eggs and Chickens.

The first object of every poultry keeper who wishes to succeed in his business is to have his produce ready for market when the commodity is scarce, since of course he can secure a much higher price than that at any other time. Wherever there is a large and permanent population customers can always be found for really fresh eggs and plump, well-fed chickens at the best price.

A very frequent complaint among poultry keepers is that they can get any number of eggs at the time when they are plentiful, and therefore cheap, but when eggs are scarce they get few or none. What is wanted is to keep only those birds known as prolific layers, such as Leghorns, Minorcas, Houdans, Black Hamburgs, Langshans, or Plymouth Rocks. The matter of housing and feeding should also have the greatest attention. There are many people who have the right kinds of birds and who house and feed them well, and yet who cannot obtain eggs very early in the year, and of course cannot have early chickens, the entire cause being that their birds are too late. Birds above two years old do not commence laying until the end of February or the begin-

ning of March, no matter how good layers they may be, and if only these be used then neither early eggs nor chickens can be expected.

To obtain early eggs, only young birds, that is, pullets of the first or second year, must be used. Birds of the various breeds named above, if hatched in March and April, will begin to lay at latest in September, October or November, and will continue to do so right through the winter. At first the eggs will be small, but will gradually improve in this respect, and pullets of the previous year will, if well housed, begin to lay about December, and their eggs will be large and well formed. Under careful management it is not very difficult to obtain a constant supply of eggs.

It is of no use expecting that May or June-hatched birds will commence to lay much before the spring. They may do so if the autumn and early winter are very favorable. January and February-hatched birds are too early to be used as layers, and do not, as a rule, answer for this purpose, as they begin about August, fall into a moult a little later on, and are very uncertain in their produce during the winter. For eggs, therefore, birds hatched in March and April, and not more than two years old, are preferable. In a well-arranged yard, half the stock of layers will be bred each year and half will be killed annually.

Those who wish to have early chickens must follow the same rule. The hens should be mated together early in November for the earliest hatches, and later in the month all those not required so soon. By using pullets of the first year for the former and those twelve months older for the latter, with young and vigorous cockerels, fertile eggs may be expected within a few days of birds being mated, and thus a succession of chickens produced to be ready at the time when they are scarce and dear. Of course the number of pullets to each cockerel must be regulated, and should not exceed half a dozen at the outside, and that number only for the most vigorous breeds. The birds will require to be housed comfortably and fed well, and in winter time the eggs should be gathered as soon after they are laid as is convenient, for they are apt to get frosted in the nest during severe weather.

Undoubtedly there are some who will object to this plan of using pullets for breeding purposes. Chickens, they say, bred from miniature birds never do very well, and this objection is perfectly correct so far as ordinary fowls are concerned, as doing this weakens and reduces the size of any race of fowls.

For birds that it is intended to rear to maturity, we do not like breeding from pullets of the first year, and therefore would always breed the laying fowls from birds of the second year, and also those to lay the eggs from which the early chicks are expected. This simply means that if last spring we bred some laying pullets, and also some specially suitable for table fowls, from two-year-old hens, we would use the former to produce eggs for sale and the latter to produce eggs from which we would hatch the chickens for early killing, as the latter are not intended to be reared, the breeding from immature birds can do little or no harm, and this is the only way by which very early chickens can be obtained.

It is not natural for fowls to breed until March or April, when pullets are about twelve months old, so that if we break through the rules of nature we must be prepared to spend care and trouble in order to obtain what we require.—*Cor. American Cultivator.*

DURING the last ten years the United States has imported eggs to the value of \$15,400,938.

A Successful Poultry Woman.

Mrs. B., one of our subscribers "over in Jersey," has a local reputation as a successful chicken raiser. It is currently reported that by the profits from her fowls she lifted the heavier end of the mortgage on their farm, and that the yearly profit on the poultry crop exceeds that of all the other crops combined. In justice to her husband, it must be said he has a good farm and is a good farmer.

Our friend makes a specialty of raising early chickens, crosses of Cochins and Brahmas being used for the purpose. She is now paying more attention to egg production, having after some experiments concluded that there is profit in eggs, and that the business is less laborious than the raising of broilers. Hereafter she will combine egg-production with raising poultry for market. From a trial of different breeds and their crosses, she has concluded that the Plymouth Rocks are quite as good as any, if not a little better than any of the other breeds, for her purpose.

The usual plan of operation with Mrs. B., as with other farmers' wives in her vicinity, is to get as many chickens out during the first three months of the year as possible. The bulk of the crop is out of the shell by the last of March. These chicks are sold when they are from 10 to 15 weeks old, and always command good prices. The outside figures paid by dealers last spring was 65 cents per pound. But prices ranged from 45 to 55 cents for several weeks.

These early birds are all marketed, and those hatched in April and May are reserved for breeding the following season. Hatching is continued up to September, but it is the early hatched broods that count in the profit column. The August and September broods pass as winter chickens and sell for fancy prices along in February and March before the broilers come into market.

Mrs. B. raises now about 1,000 head yearly; formerly she exceeded this number. Early in July she had 600 of all stages of growth, and many hens sitting. The early broods had all been turned into cash, as also a large proportion of her hens. For the chicks she obtained from 45 to 65 cents per pound, and for the hens 25 cents per pound. In addition to chickens she had over 100 Pekin ducks, 75 turkeys and a small flock of geese.

The hatching is done mainly by hens, although Mrs. B. has an incubator and runs it occasionally, but is not successful in raising the chickens. She utilizes turkey hens when she can, and says she likes them as incubators. From 10 to 20 common hens are set at a time in a house she has for the purpose. When the chickens are hatched they are divided among about half the number of hens and the whole lot are colonized in a place apart from the older broods. They have unlimited range when the weather permits.

In the morning the chicks are fed with a warm mess, consisting of corn meal, wet with milk. At other times they are supplied with cracked corn and wheat. Cracklings are also used, and a cheap grade of rice is sometimes bought and made into pudding. This pudding is sweetened with brown sugar and fed to fattening chickens a few days before killing.

In front of the main poultry house we saw a spot covered with ashes and charcoal. Mrs. B. collects a pile of chips here and burns them by a smouldering fire into charcoal, and the fowls have a constant supply before them. Ground oyster shells are also supplied freely.

All young stock are killed off as soon as ready for market, with the exception of those needed for next year. Very few hens are kept after they are one year old and none after they have reached the age of 18 months.

Great care is taken in feeding the pullets reserved for breeding, to induce them to lay

early, so that they will furnish the necessary supply of eggs and be inclined to sit early.

Mrs. B. is quite successful, as we said, and her method of operation is worthy of study. But like nearly all farmers' wives, she is laboring too hard and contending with difficulties that arise from poorly adapted buildings—buildings that are totally inadequate to her scale of operations.

Her husband, and the husbands of other hard-working wives, will please take a hint.—*Farm Journal*.

Wintering Fowls.

It must be borne in mind that the profitable keeping of fowls in winter involves the following things:

1. Crowding for sake of warmth, or keeping the temperature of their quarters at the proper warmth by artificial means.

2. Constant attention as to regularity of food, cleanliness, pure warm water, plenty of road dust, sand, or coal ashes for a dust bath.

3. A good supply of ground oyster shells, bone meal or cracked bones, with the addition of some meat, cabbage and raw onions chopped fine, as often as once or twice a week.

4. Careful selection of fowls; very early hatched pullets make good winter layers, year olds or hens that have come through the summer in vigorous condition; sickly fowls are worthless for winter.

5. In feeding, twice a day is sufficient, and give them all they will eat at those times, removing the surplus; but if the hens are fed occasionally, or with one meal a day on unshelled corn, give that to them in the morning; picking the corn from the cob affords the hens needful exercise, and on that account it is better for them than shelled corn.

6. Even with following the above directions, it is useless to think of carrying the fowls through the winter successfully if they are confined in dark close pens; they need sunlight and pure air; give them all the outdoor range that the weather will permit; and their pens should be kept scrupulously clean, by removing all excrements as regularly as from animals, keeping the floor of the pen under the roosts covered with road dust or fresh dirt.

The above is given for the benefit of beginners and for those who are always complaining that their hens do not lay any in winter. There is no reason why eggs should not be as plenty in winter as in summer. Hens will lay nine months in the year if they are well cared for; and as our supply in winter always has been limited and the demand for fresh eggs is insatiable, there is but little danger of overdoing the matter. The time to begin is now, by preparing proper winter quarters, collecting green forage and all other needed requisites for the business, and selecting the best fowls at command. If left to shift for themselves, fowls will be unlikely to yield much profit.—*Farm and Home*.

The Apiary.

Wintering Bees.

The beginner especially is perplexed by various methods advocated by his neighbors, and is at a loss to know which to adopt; perhaps each of half a dozen ways seems to be equally successful. Doubtless they all embrace the same fundamental principle, though apparently quite different. If we know the sound, scientific and practically correct principle, and some of the simplest ways of carrying it out, we should easily decide which of them is, for us, the most convenient.

To winter successfully, bees require—1st, sufficient stores; the right amount is 25 lbs. or over. 2d, to be kept dry; dry cold does

not kill bees, but they will die if the moisture among them becomes frozen and remains so for a long enough time for them to starve. Damp chilliness, and brings on diarrhea (commonly called "dysentery") just as it does with higher animals. It also sours the honey, which itself causes disease. It checks the natural animal heat. If bees are dry they can cluster closely and keep warm; not so if damp. 3d, fresh air; this applies to all animals, and is well understood. 4th, an even temperature. If bees are warm they will spread their cluster, and when cold will contract it again, and so on. This requires much motion; honey must be eaten to supply the extra animal waste thus caused. This is not only expensive, but is a fruitful source of disease, as the bees after consuming such large quantities of honey are unable, on account of the cold, to fly and free their over loaded bowels, thus producing dysentery in perhaps five cases out of six. The motion causes the generation of more or less moisture, which may be condensed before it has time to escape and freeze about them. 5th, warmth. This sours much honey, since the bees do not need to eat to keep up animal heat if they are sufficiently warm without it. If they have required heat surrounding them they can move freely from comb to comb for food, and be in no danger of starving; while if cold, may be confined upon a set of combs for some time after the honey they contained is used. If warm enough they will commence breeding early, and the brood will not be chilled; the colony will be strong at honey flow. On the other hand, if too warm they will consume too much honey, fly before they should and be lost; and will breed too early and too fast, and much of this brood will be chilled in the spring. The proper temperature for the surrounding air is 40° to 45° Fahrenheit.

All these requirements may be fully met by acting upon the following principle, viz:—Draw off superfluous moisture; ventilate; keep the proper temperature.

The more nearly this principle can be carried out the better will be our success. I give the four most approved ways, and prefer them in the order named:—In the bee house, in the cellar, in the packed clamp, in the packed hive.

THE BEE HOUSE.—As those who have a bee house are sufficiently posted, and as it is too late to build one for this winter, I will not describe it now.

THE CELLAR.—This must be dry, and should be so arranged as to be easily ventilated, and so that the temperature may be kept about 40° to 45° Fahr. from the middle of November till the middle of April. The bees should be kept on their summer stands cushioned down, and have a small entrance to their hive till they have clustered for winter and all chance of very warm weather is over. Choose a sunshiny day to "carry in." Mark each hive to match its own stand so that it may be put into its own place when brought out again; remove the cover and replace the cushion by a thin factory cotton quilt, which will allow of the escape of the moisture through it. Between the frame and quilt have two or three corn cobs or pieces of stick to form passages for the bees over the combs. Open the entrance wide, or if the bottom board is loose, remove it (this is much the better plan) for ventilation. Place the hive upon racks made of two 2x4 scantlings set across the cellar a foot above the floor, and so spaced that one will come near the front and the other near the back of the hive. If other racks are required let them be sufficiently high to allow a hive to be conveniently placed upon the one below. Space the hives upon the racks so that one may be removed without disturbing others. Regulate the temperature of your cellar carefully.

THE CLAMP.—This is merely a long box with slanting top to shed the rain. It may be made any length to suit convenience, and should be large enough to allow a space of six inches below, before, behind, and at each end of the row of hives within it, these having between them a space of two inches; above the space should be eight inches at its shallowest point. The hives should all face the same way; I prefer the south. A covered passage from the hive entrance to the outside of the clamp should be constructed, half an inch high by the width of the entrance itself. A board should be arranged to break the wind and prevent the sun shining full upon the opening.

To clamp the bees, commence at once, and move them a little each day towards where they are to be wintered; when in position leave them undisturbed two or three days, so that they may mark their position well. Then put them into the box and pack all but the space above with straw chaff or sawdust (sawdust is best if it can be obtained cheaply, but must be dry). Remove upper and half stories and cover, leaving only the cushions on; put the roof on the clamp. After the bees have clustered for winter, carefully remove cushion, and arrange the frames so that the cluster is all at one side, or front end, of the hive. Place corn cobs or sticks across the frames, then a light factory cotton quilt, and then fill up with dry straw to absorb the moisture. Leave entrance full width for ventilation.

THE PACKED HIVE.—In this arrange the cluster as in the clamp, and use the passages over the frames. Use cushion instead of quilt and straw, and protect entrance from sun and wind.—*Farmer's Advocate*.

Horticulture.

The Orchard and Fruit Garden.

Planting, when the weather will permit, will still be in order during this month, and in fact all through the winter when the weather is mild and soil in condition; the fine weather during the first half of November afforded good opportunity for tree planting; though the soil was dry, this does not matter so much for fall planting as for spring, for the plain reason that trees are in the main, in a condition of rest, and remaining so for some months after planting, moisture is not so indispensably necessary as when growth follows soon after the removal or planting of trees.

The "boom" in the peach tree trade is far beyond anything of the kind I have heretofore known, a genuine mania or craze for peach trees seems to have spread over the entire "Sho"; the contagion even leaping the Chesapeake and disturbing the peaceful dreams of Western Shore conservatism in fruit-growing, leaving scores of its victims in mental distress because there are no more trees to be had for planting. Unless one should have a temperature bordering on a genuine northwestern *norther*, it is reasonable to presume that in the next decade there will be a "bottom" to repair before big prices for peaches will be obtained. There is, however, one consoling feature in this matter and that is, that *Free trade* cannot affect peach-growers, as politicians say it will other things.

Other fruits are not so wildly sought after as is the peach, yet the demand for apple trees, especially those of early summer varieties, is better than for years past. Pears, too, are in fair demand, even the worthless Kieffer is being planted pretty extensively; this latter, though, is purely an artificial demand, based almost entirely upon the unscrupulous representations of parties possessing large quantities of the trees of planting size. That the tree is blight proof, is only a loudly trumpeted up snare, and that the quality of the fruit is fine, is a delusion to be familiarized by the near future in a grievous

way to those who have invested largely in the fraud.

Plums of the American type are rapidly becoming more popular, and while meritorious new varieties are being brought to the front, the same style of scheming to palm off worthless kinds, at big prices, is noticeable here as with other fruits. That Western servant who discovered that the "Wildgoose" is pistillate, should have a monument of mud erected in honor of the results of his wise investigations and experiments.

To sum up briefly, in new plantations of either trees or plants, it is unwise and unsafe to discard the standard and well-tested varieties, such as have proven themselves by extended trial, to be profitable, for the new and untried kinds, no matter how hard they are "blowed," or how pretty they look on paper. Plant sparingly of novelties, and avoid frequent disappointment and loss. I write this from experience—not a particle of theory about it—every spring for the last ten years I have had worthless "novelties" to re-graft—vines and plants to replace. This, however, is a legitimate part of a nurseryman's business, because he should by all means be informed as to the merits and demerits of everything in his line of trade, so that when a customer, blinded by high colored advertisements, comes to him and asks for these "immensely profitable" (!) fruits, he can give his patron the exact facts.

J. W. KERR.

Kitchen Garden.—December.

This is the third month in succession in which I have had occasion to notice the protracted drouth. I will merely say that it still prevails. We have had sufficient rain to enable us to plow a little, but not enough to start the seeds sown on the upturned soil.

As but little gardening could be done under the circumstances, it has been an unusually favorable time for making improvements. My entire force found work for three weeks or more doing extra work outside the garden.

The weather is very favorable for the ripening of the wood of all kinds of small fruits. Strawberries have made no runners, but are husbanding their strength, so to speak, for a grand crop next summer. Having already declared their intentions in that respect it will be in order to give them some encouragement in the shape of a good top-dressing of well rotted manure. In doing so I drove the cart right on to the plat, the injury done to a plant here and there being as nothing in comparison with the value of the time saved.

Pruning is cold work if put off until cold weather sets in. Those who have much of it to do should not miss the opportunity to prune an hour or two every mild day. There is a touch of common sense in the old sarcastic advice to "prune whenever the knife is sharp," for those who understand the business can prune certain things to advantage at almost any season. Gentlemen of leisure pinch and prune to good advantage at midsummer, but few of us can find time then unless it be with the indiscriminating hedge-shears.

The intelligent and experienced pruner will slash away apparently as recklessly as the most ruthless tree-butcher, but not a single cut is made without some good reason. Beginners, however, should be cautious; dexterity will come with experience. The subject is well explained in most books of horticulture and but little can be said here. It is always in order to remove dead wood and weak shoots; to keep plants symmetrical, by keeping rampant branches within bounds, and to thin judiciously. This in general; but specific plants require specific treatment. Most fruit trees, vines and bushes will overbear if not prevented in some way, and in most cases pruning back is the most simple and effective means that can be

adopted. Overbearing one year means a meagre crop the next. Judicious pruning and pinching regulates crops; and he who is attentive to plants in these respects is not likely to forget the requirements of tillage, manure, etc., which are equally essential to success.

If there is an opportunity to plow this month it should not be neglected. Such land can be re-plowed with great ease in spring and many grubs will have been disturbed or destroyed.

Ice-hooks should be got in order, shutes repaired and the wagon roads put in order. The garden should be well cleared up for appearance sake if nothing else. Remove and pile up bean poles—under cover if possible.

Vegetables are no longer safe in the open ground unless perhaps Parsnips and Salsify, and these should be dug up and pitted for convenience in being got when wanted during the winter months.

Spring vegetables will be scarce, and those who have facilities for forcing and forwarding will find something to occupy their minds even now.

JOHN WATSON.

Grape Rot.

Messrs. Editors American Farmer:

Your correspondent "R. S. C." from Harman's, Md., asks for information as to the cause of the "Grape Rot."

Has he ever observed about the time grapes are about as large as a green pea, a brown beetle nearly as large as a June-bug, infesting his vines? These bugs alight on the leaves, then crawl to the bunches and sting the fruit; and every grape they sting they ruin. You first see the effect in a little black speck the size of the point of a pin on the grape; then it spreads over the fruit and prematurely turns it dark, and it finally rots. Sometimes only a few grapes on a bunch are stung; sometimes nearly every one will be ruined. These bugs at the slightest touch will fall off the leaves to the ground, or they may fly off. They are very sluggish and easily captured. My remedy for the "Grape Rot" is to catch and kill these beetles as soon as they appear among my grapes, and never to let them touch a bunch if I can prevent it. I suppose they puncture the fruit when depositing their eggs on it, and the larva use the young pulp for food, and thus destroy the grapes. I catch the rascals every night and morning as long as they put in an appearance, and burn them as I would a potato bug.

If "R. S. C." will study the operations of these beetles I think he will find the cause of the "Grape Rot."

T. K. R.

Talbot County, Md.

A Querist in a Fruit Garden.

How can I best fill out vacancies in raspberry and strawberry rows caused by plants dying from the effects of drouth?

With strawberries permit the plants that survive to make new plants, and take up the new plants with a mass of earth about the roots in September, and plant where vacancies occur. Or, better, train the runners into quart baskets or small pots, and transplant from these when well rooted. With black raspberries, layer the young canes as soon as long enough, and transplant these young plants next spring where vacancies occur, after the tips of young plants have grown an inch or two, leaving earth about the roots. With red raspberries fill vacancies now with green sucker plants that have sprung up about old plants on your place. Do not order green plants as they will not often endure shipment. Remove the leaves on planting.

Is it necessary to remove blossoms from newly set strawberries?

If set early, and the weather continues

moist, the plants may come through in good condition, bearing fruit the first season. But if a drouth occurs after planting, the plants might perish from the drain upon their vitality in attempting to produce fruit before becoming established. I have known plantations to be saved in such cases by removing every blossom and green berry.

What is the best plan for carrying plants through a drouth?

I never water them. As ordinarily done, watering is detrimental. I mulch each plant with manure or sawdust, or in the field with loose fine earth. Even where the soil in the row has become hard this mulch of fine earth often save the plants through a long drouth, if the spaces between the rows are cultivated frequently.

When is the best time to head black raspberries and blackberries?

If you wish to grow without stakes (the approved method) pinch off the tips of young canes as soon as they get about two feet high. If you wait until the canes are four or five feet high and then cut off a foot or more, you check growth and lose some of the best buds. I cut back the bearing canes of red raspberries, and shortening in side branches early in the Spring, securing more and better fruit than if the entire canes were left on and giving better opportunity for the pickers to move about without breaking off the ripe berries.

Is Summer pruning of the grape advisable?

Grape growers thin grapes by pruning on surplus buds and shoots and shortening in canes, allowing but three or four bunches to each cane, when the trellis is well covered. If left to itself the grapevine sets twice as many clusters as it can bring to perfection. If a large part of the clusters are removed early, those remaining will be much larger, will ripen earlier and be of better quality and the vitality of the vine be perpetuated.

How long is it profitable to allow strawberries, raspberries, etc., to grow on the same soil without renewing?

Some varieties run out much sooner than others. Ordinarily three years with strawberries, five with blackberries and currants is the extent, though many are profitable much longer, and strawberries might continue an existence for a lifetime. The better the culture, and the richer and better drained the soil, the longer the plant endures. Where land is very high-priced strawberries are only allowed to remain long enough to produce one crop. Where land is cheaper there is no limit to the ingenuity that may be applied to keeping the beds renewed and productive year after year, keeping in view the fact that the young plants possess the most vigor.

Are large fruits as profitable as small fruits?

As a rule they are not. Our small fruits seldom fail to give a crop, while the pears, apples, peaches and plums often have their barren years. But the trees require less attention than plants and vines, and we do not feel the loss of a crop so seriously from them. While engaged in the business one should desire to grow the large fruits as well as the small.

Does fancy fruit growing pay?

No. If growing fruit as a business you must learn the cheapest method of producing it. It pays to fertilize well, to give good culture, to offer in attractive style in market, and to raise the best varieties, but there is a limit to high culture, and to everything connected with the business. Every man must be his own judge as to when he has reached this limit. Some men can grow fruit at half the cost of others. Some men can manufacture shoes for less than others. Good common sense carries a man a long way toward success in this country.

—Charles A. Green in N. Y. Tribune.

Preservation of Fruits.

The first picking of apples is usually the best, and ought to be laid aside for winter use. The Second gathering—for apples are rarely twice hand picked—should be sorted out, the least injured ones laid aside and then preserved, and those most injured used at once. When cider is made at home the same rules hold good. Work up those apples that look least likely to keep. The care needed for apples is doubly necessary for pears, as they are more juicy and less liable to resist the rough handling or an uneven temperature. When fruits are first gathered, they, as it is technically expressed, sweat—that is, they exude their superabundant moisture. 1. If this moisture be carefully removed twice, and the fruit neatly wrapped in paper, then stored in an atmosphere that is uniform and moderate, it will keep with ease far into the next year. It is also necessary from week to week to enter the fruit room, which should not be allowed to become too damp on any account, as damp speedily destroys vegetable matter, and look over the rows of fruit. This can be done by taking up a pear or apple here and there at regular intervals and examining its state, and then replacing it if all is found safe, rejecting it if it is found unsound.

In harvesting small fruits, care must be had to collect them in dry weather; otherwise they will require more sugar and more time in preserving, and likewise be less certain to keep well. Still fruit—that is, apples, pears, peaches, nectarines and such like—bear to be preserved when only slightly pinked. Quinces ought to be canned or made into consistent preserves about one month after having been harvested. The saccharine matter in the fruit is set by that time.

The harvesting of nuts is a small matter, yet annually bushels of nuts are lost by storing them in a damp condition in frozen cellars or over-heated closets. In the nutting season, immediately after the slight frost, all nuts should be gathered, the husks removed and the nuts allowed to remain exposed to the open air, but under shelter from rains or severe frosts. About the first of December all nuts should be dry enough to store; they may then safely lie three inches deep on the floor of a well-ventilated garret. A cellar is worst possible place to store fruits in. As every cellar is below the surface, it is more or less damp, if not artificially heated, and artificial heat is expensive, and dampness is strongly antagonistic to safe keeping of any vegetable matter.

The best manner of keeping grapes fresh for winter use is that method pursued in Spain, namely: to pack the entire clusters in thick, open-mouthed stoneware jars, laying dry, putting fresh, hard wood sawdust between them so thickly as to fill up all interstices; then to place the jars in a cool and even atmosphere, excluding all light.—*Tribune and Farmer.*

Protecting Strawberries.

The great object in protecting strawberries or other plants during winter is not to prevent freezing, but rather to prevent thawing during the warm days that often occur in February and March. Although protection may be so applied that the plants will not freeze at all, there is great danger of smothering, as the activity of the plant will be kept up to a certain extent, and access of air prevented by the covering. The depth of mulching advisable, varies of course with the latitude and substance used, but three or four inches will usually suffice. Straw has been much employed, but a great objection to it is that it often contains weed seeds which enter the soil and involve additional labor. Mr. C. A. Green after using straw says: "We shall never mulch bearing

beds of strawberries with straw again. Though a good winter protection, it cannot be made free from grain and weed seeds." Rye or winter wheat straw is generally freer from seeds than any other. Leaves are also employed, and are excellent, but like many other good things "often flutter and fly away," unless light brush is used to hold them in place. According to E. P. Roe, light, strawy horse manure, that has been piled up to heat and turned over once or twice, so that in its violent fermentation all grass seeds have been killed, is "better than all." The *American Garden* advises the use of freshly cut evergreen branches, which not only make an excellent covering, but serve as pea brush the following season. The planting of a few spruces or other similar trees for this purpose is recommended.

The time of applying substances for winter protection varies of course with the latitude and season. As a rule never apply until the ground has frozen hard. The inexperienced are apt to put on too soon, forgetting that the object is not to prevent freezing. Generally the last of November or first of December is the proper time.—*Prairie Farmer*.

Raising Cabbage, Cauliflower and Lettuce Plants.

Messrs. Editors *American Farmer*:

You will see by the enclosed (written about a month ago) that I pretty nearly agree with your correspondent, W. F. Massey.

Very truly,

PETER HENDERSON.

New York, November, 1884.

The question is put to me many hundreds of times, every season, as to what is the best method to produce plants of Cabbage, Cauliflower, and Lettuce for early spring planting. Although we still grow several hundred thousands of fall sown plants annually, (which are wintered over in cold frames) yet increased experience seems to show that plants grown in the manner below described, which we have practiced for the past three years, can be cheaper done, and at the same time can produce nearly as good plants as by the old method of wintering over in cold frames.

For our latitude, we make our first sowing on February 1st, in our greenhouses, where the temperature will average about 70 degrees; that is, about 60 degrees at night, and about 80 degrees during the day. Where there is not the convenience of a greenhouse, a hot-bed will answer the same purpose. A hot bed, made with manure, about two feet deep, in a proper manner, produces just about the same temperature and general conditions as a well appointed greenhouse will. We find it more convenient to sow the seed in shallow boxes, which are made by cutting the ordinary soap boxes into three pieces, which gives us a depth of about two inches for soil in each box. We use any light rich soil for the purpose, sowing enough seed in each box to produce 1,000 or 1,500 plants, or if sown in the hot bed, without the box, each 3x6 foot sash should grow about 5,000 plants, but we find it more convenient to use the boxes than to sow in the soil, put direct on the bench of the greenhouse, or on the manure of the hot-bed. The plants sown on February 1st, in a temperature averaging 70 degrees, will give plants fit to transplant in about three or four weeks. We then use the same shallow boxes, putting in the bottom of each about one inch of well rotted manure. Over that we place an inch of any ordinary rich light soil, smoothing it so as to have it as level as possible. In these boxes, which are 14x30 inches, we put an average of about 150 plants. The boxes are then taken direct to the ordinary cold frames, which, however, have been protected with manure, as it would not do to put the boxes of tender

plants on a frozen surface. It is very easy to keep the frost out of these cold frames by putting on three or four inches of dry leaves or manure before the soil freezes up, and placing the sash on the frames two or three weeks before they are to be used. In this way they will keep perfectly free from frost, and can be used at any time during the winter. The boxes should be placed as close to each other in the cold frames as they will stand—about 8 boxes fills a sash, thus holding about 1,200 plants. If the sun is bright, it is well to shade them for a few days until they take root, but the most important point of all, is to cover the sashes up with straw mats at night so securely that no frost will reach them in the cold frames. For the past three years we have each season grown about half a million of Cabbage, Cauliflower, and Lettuce plants in this way, and have had no trouble to keep them from freezing—by carefully matting up—even when the thermometer has reached zero.

Plants sown on 1st of February are transplanted into the boxes about the 1st of March, and are at once placed in the cold frames, and will be fine plants to transplant to the open ground any time after the 1st of April, if they have been carefully attended to by watering, airing and protecting from frost. As I have before said, these dates refer particularly to the vicinity of New York City, where we can plant out usually in the open ground all kinds of Cabbage, Cauliflower and Lettuce plants about April 1st. If in districts where they cannot be planted out sooner than the middle of April, then the sowing should not be made before the 15th of February, and the process of transplanting, &c., gone through as before stated, so that the plants will be in condition to plant in the open ground by the 15th of April. If in sections where Cabbage cannot be planted in the open ground before the 1st of May, then the sowing should be delayed until nearly the 1st of March, and the process of transplanting in the frames the same. There are some sections in the Southern States of course where these directions would not apply, where the sowing would need to be done as early perhaps as the 1st of December; and as it takes about two months from time of sowing until they are fit to plant in the field—plants sown 1st December in Southern States would be fit to set out by February 1st. It will be understood that there would be no necessity for sowing in hot-bed or greenhouse in such a climate as Florida. The protection of glass in an ordinary cold frame would give about the same average of temperature there in the winter months as we would have in the north by artificial heat.

There is another and rather simpler process of raising Cabbage plants, that is by sowing the seed in the cold frames direct. This is done here usually about the 15th of February or 1st of March, in as warm and sheltered a place as can be got for the frames. I saw one of my neighbors have a fine lot grown in that way last year. He had taken a crop of Lettuce out of his frames about the 15th of February, dug and raked the ground and sowed his Cabbage seed in rows at about five inches apart, sowing enough to give about 1,500 plants under each 3x6 sash. He matted carefully up, giving ventilation to the sashes whenever the weather would permit, and about the 1st of April he had fine plants, fit to plant in open ground right from where they were sown, not quite so good, of course, as if they had been transplanted, but still much better than the ordinary hot-bed plants, which are generally too much drawn and too tender to stand cold weather until quite late in the season. If care is used to so cover up these cold frames when the plants have been transplanted in the boxes, or sown as described above, there is hardly a chance but that excellent plants will be produced, as there is far less risk in the hand-

ling of them than in the hot-bed. A very important point to always observe is to cover them so that the frost will not get to them. In some sections it might be necessary to use a light shutter placed over the sash, and then throw over them the heavy straw mats, at the same time covering up the alleys between the frames to the top of the board with dry leaves or ordinary stable manure, so as to prevent the frost striking through the boards into the plants.

Jersey City Heights, December 1st, 1884.

Too Many Varieties.

We are often asked if this or that variety of fruit is suitable for a certain locality, and we are often unable to answer, for the variety inquired about may be comparatively new, and while promising well has not been tried under all circumstances. As the question in such circumstances is direct, the answer must be as direct as possible. If we were asked, what variety would be the best, it would be different. And this leads us to say that the multiplication of varieties has not been an unmixed blessing by any means. We are quite willing to acknowledge the obligations we owe to those who have originated meritorious varieties of fruit, and we are always willing to encourage effort in that direction, if the one who makes it is so situated that he can afford the expenses attending experiments. But we have no hesitancy in saying that as general fruit-growers our interests are not usually served by going outside of well known varieties. We believe that Western orchardists have made a mistake in cultivating too many varieties. In our eagerness to get the best, to get something that was an improvement, we either got something that was not so good in quality, or was not hardy in our climate. One is deeply impressed with the mistakes that we have made in this direction as he goes into the market to buy apples. We have apples of all kinds, sizes, colors, shapes and flavors, but unless special care is taken in the selection, a good eating-apple will scarcely find its way into the house once a year. Some of our old varieties are vastly superior in quality to many of our new ones, and in other respects they are vastly superior. We have always urged our readers to set but few varieties, to find out what will do well in the locality in which they are wanted, and stick to them. Four or five varieties at most are quite sufficient for any orchard, and this is very old advice, often given without regard at all to the reasons that we have mentioned in this article. Many of our apple-growers cannot afford losses, if they can be prevented. Those who can, are not only at liberty to experiment, but they may be properly encouraged to do so. Of course, there are new varieties coming before us from time to time that may, and doubtless will, prove valuable, but let those test them who have the time and the money to do so. The great mass of people had better confine themselves to old and well known sorts.—*Western Rural*.

Manuring Fruit Trees.

That fruit trees require a large amount of food is obvious. The tree itself takes from the soil much material. When a large tree is cut down or removed the ground where it stood is found to be in a very poor condition. Its former site is a bad place in which to plant another tree of the same or different species. The ground long occupied by an orchard under the ordinary management is generally found to be in very poor condition to produce ordinary field crops. It ought to be well manured or devoted to what is known as "resting crops," such as clover and grass, before it can produce good corn or small grain. The plant food taken from the soil to produce an annual crop of apples is enormous. Single trees have been known to

produce on an average twenty bushels per year for a long period. It is obvious that such trees have robbed the soil of most of its fertility for the entire distance traversed by their roots. If no new nutriment is afforded, the trees must cease to grow and stop producing fruit. The trees cannot move in search of food as animals, birds, fishes and insects do. The food must be brought to them, or they will die of starvation or become victims of disease.

While it is obvious that fruit trees must be fed, considerable judgment should be exercised in the selection and application of it. Green, unfermented stable manures ought not to be employed. Stable manure, however, if thoroughly fermented, is excellent. It is improved by stirring it during one entire season, and by forking it over two or three times. A compound formed of stable manure, forest leaves, muck and turf is also excellent. Ashes and air-slacked lime is also highly beneficial. Good results are often obtained by incorporating these fertilizers with the soil by means of a spading fork. When this is done the ground should be afterward tramped nearly as hard as it was before the manure was applied. Good results are ordinarily obtained by applying the manure in the form of a top-dressing. Little labor is required to apply manure in this manner, and no injury is done to the roots of trees. The soluble portions of the manure are carried downward by every rain, and in time reach the soil that is occupied by the roots.—*Jour. Agr.*

Protecting Manure.

There is some difference of opinion as to protecting manures against rain, wind and the exhausting effects of the sun. Doubtless all these have an injurious influence upon the manure heap, and it is certainly true that without any moisture at all from rain, it will not be improved. However this may be, we are very certain that unlimited exposure to the weather will prove highly injurious to the quality of the manure. A leading farmer told us some time ago that he regarded the complete exposure of the manure heap through the winter and until it can be used in the spring, to damage it fifty per cent. In other words, one load of well-protected manure is worth two of the exposed. This seems almost incredible, but it may not be far from the truth.

There is no question that a subject which so vitally concerns the farmer as this one of manure, and causes him to give so much attention to it, possesses great merit. His straw is not to be sold because it is to be converted into manure. Stock is fed through the winter for the express purpose of accumulating manure. Articles that scarcely pay to send to the city are nevertheless hauled there in order that manure may be brought back as a return load; and yet the whole of the manure gathered is frequently all the season exposed to the sun, wind and rain until it is greatly diminished in value—one-half according to the opinion of our agricultural informant. The trouble is, that few really believe that exposed manure undergoes this serious loss. Hence, in arranging farm buildings—and we know many that are so arranged—it will pay well to look as much to the preservation of the manure as of the hay or grass; and those whose buildings have no provision for this purpose, cannot spend twenty-five to fifty dollars better than in putting up a shed under which the manure heap may be protected against these adverse influences.—*German-town Telegraph*.

TEA culture has been attracting considerable attention in the Southern States, and several instances of comparative success have been given.

The American Farmer

"O FORTUNATUS NIMIUM SUA SI BONA MORIET
'AGRICOLAS.'" Virg.

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At the office of THE AMERICAN FARMER
are located the offices of the following organiza-
tions, of each of which its proprietor, Wm. B.
Sands, is secretary:

Maryland Horticultural Society.
Maryland Dairymen's Association.
Maryland State Grange, F. of H.
Agricultural Society of Baltimore Co.

BALTIMORE, DEC. 1, 1884.

The Farmer for 1885

We trust our friends will begin promptly
to renew their subscriptions, and to make
up their clubs for the New Volume. We
hope and expect in the coming year to not
only keep the paper up to its usual standard,
but to improve thereon. The prospectus
will appear in our issue of December 15th.

THE AMERICAN COTSWOLD ASSOCIATION
met, with many other associations of breeders,
during the Fat Stock Show at Chicago.
Edward B. Emory, of Maryland, was elected
President, and George Harding, Waukesha,
Wisconsin, Secretary and Treasurer.

SALE OF JERSEYS.—Attention is called to
the advertisement of Mr. T. S. Cooper's sale
of Jersey cattle to be held on the 18th in-
stant, at New York. It will contain many
attractive animals.

POULTRY FOR PROFIT.—Published by W. &
R. Powis, Chicago. Cloth 50 cents, paper
cover 25 cents.

Upon examination we find this little work
to be practical, and well worthy the careful
consideration of those who are already, or
intend to turn their attention to rearing
poultry for profit. The many minor details
essential to success are given in a plain
matter-of-fact way, and as the author claims
to have spent 30 years in the Poultry Yard,
his information is more of a practical nature
than theoretical. A chapter of "Condensed
Items of Interest" give many useful and ex-
cellent hints and truths, that all beginners
should know, and veteran breeders even
may find something new also.

The Grange.

National Lecturer's Communication.

Question.—How can this, the closing
month, be made most profitable to us as in-
dividuals and as a Grange?

Suggestions.—Individual profits and ad-
vantages require individual efforts, and
much of this is confined to home affairs.
Give thought to what we have learned in the
Grange concerning care and feed for stock.
Much of the profits on all kinds of stock
depends largely upon care and feed during
the winter. Give them shelter, care and
wholesome food. Young stock must be
kept growing in winter as well as summer
in order to obtain satisfactory profits when
marketed. Pork should be brought to its
growth and full value when one year old.
Beef at two and a half years' old with
proper care and feed can be marketed at
these ages and bring larger profits on ex-
penditures than if stunted while young and
kept to an older age.

This being one of the months of leisure,
calculations should be made for repairs on
farm buildings and fencing. Secure and
handle the material during the winter
months, so as not to interfere with summer
work. Proper calculations made and car-
ried into effect will increase next year's pro-
fits.

As a Grange we must unite our efforts
and influence in a co-operative way for all
Grange work. Revive and build up our
respective Granges during the winter
months by such missionary work as will
awaken the dormant and inactive members
to useful work, and seek to interest non-
member farmers and get them to realize the
importance, necessity and advantages of
farmers' organization.

The National Grange.

We have received no full accounts of the
annual meeting of this body, at Nashville,
Tenn., the attendance on which seems to
have been about as full as usual. The
Executive Committee in its report stated
one hundred and twenty-seven new Granges
had been organized within the past year,
distributed over nearly all the States of the
Union. Texas stood in the van with thirty-
six, New York with eighteen, and so on
down to one in Connecticut and one in
Dakota Territory.

Hundreds of dormant Granges have been
revived within the past year; ninety-five in
Texas and a proportionate number in thirty
odd of the States.

The financial condition of the Order was
reported good, and prosperity seemed
to be smiling generally upon the Order,
North, South, East and West.

The Executive Committee recommended
that the National Grange meet but once in
two years, and that it stop its perambula-
tions annually over the country, and pur-
chase a home at some point in which they
could assemble.

The views of the Committee were not sus-
tained, the proposal for holding bi-annual ses-
sions being twice defeated by two votes.

Some alterations in the Constitution were
proposed, regulating membership in Pomona
Granges, etc. The next session of the Grange
will be held in Boston.

THE MARYLAND STATE GRANGE, as heretofore
noted, meets in annual session on
Tuesday, December 9th, at 2.30 P. M., at the
hall of the Young Men's Christian Association,
corner Charles and Saratoga streets,
Baltimore.

BALTIMORE COUNTY GRANGE holds its
quarterly meeting on Tuesday, December
2d, at 10.30 A. M., in the hall of Patapasco
Grange, on North Point Road.

Home Department.

A Lady on Home and Farm Topics.

I was interested very much in an article
in the last FARMER on "Sunshine," by Ceres,
and agree with her. If there is one thing I
hate, it is to see a house with the blinds all
closed to keep the sun out of the house, and
so far I have found the inmates cold and
selfish, and the houses have a cold and selfish
look to me. I think the porch is the best
part of the house during warm weather, and
am on mine from morning until night. It is
sitting and dining room.

I enjoy "Recreations of a Country House-
keeper," and think more of the men want
poor Marcus' experience. I think if they had
the little things to do day in and day out they
would soon give up. I am not one bit of a
women's rights woman. Think if all would
simply try to do their duty to each other and
to God they would never find time to say
the other had nothing to do. All must work
in some way, and work will never hurt any
one if they do not make themselves slaves to
it. I have not one bit of patience with a
woman that is always fussing at the men
and will not trust them out of sight; nor
with men finding fault with women. They
receive cold comfort from me.

The letter taken from the *Country Gentle-
man* on "Mixed Farming," in THE FARMER
of October 1st, amused me very much, and
I wondered how many could make a living
on raising potatoes, wheat and grass at the
price wheat and potatoes are now. Eggs
have paid better than wheat. So far as my
experience has been, I believe in mixed farm-
ing and have never made myself a drudge
attending to it. If I use my brains as I ought,
it all pays and can make on all; and from
experience I know butter can be made from
one cow more than a small family can use,
and a cow that will not do that with proper
attention must be a very poor one. The
trouble is, there is too much of everything
wasted. It is the little things wasted that
keeps so many poor. They have an idea it
is meanness to save trifles and never seem
to think that life is made up of little things. If
our Saviour while on earth commanded the
fragments to be gathered up, why should
not we do the same? I have found the most
saving the most liberal when they were called
on to give for some good purpose or aid others
in need. Many will have to learn from bitter
experience that it never pays to waste any-
thing however trifling. The wasteful people
generally manage to get more from others
than they are entitled to, and the same with
the careless that never do anything in a
business-like manner. M. S.

Stained Floors.

The popularity of stained floors goes on
increasing. Nowhere are they more ap-
preciated than in sleeping rooms, where
sweetness and freshness are the main con-
siderations. Just what is the best stain is a
difficult question to decide. A writer in a
contemporary is of opinion that permangan-
ate of potash is the best. It is much used
in the navy, and is very satisfactory in sit-
ting-rooms and sleeping-rooms. As most
people know, permanganate of potash not
only stains, but purifies and disinfects the
rooms which are stained. The mode of
procedure is this: Procure a good quality
of permanganate of potash, dissolve about
an ounce and a half of the crystals in a
gallon of boiling water—this will make quite
a dark stain—use a stick to stir up the mix-
ture; then with a painter's flat brush lay on
the stain, working the way of the grain of
the wood quickly and boldly. A small
brush is useful for corners and crevices,
and a pair of heavy gloves should be
worn while at work, as the permanganate
stains very considerably. Salts of lemon,
or the lemon juice, will, however, quickly

remove the stains from the hands. When
dry, the staining can be repeated if the
color is not dark enough, and then, when
perfectly dry, the floor should be rubbed dry
with an old duster, and linseed oil should be
rubbed on freely with a piece of flannel,
always applying it with the grain of the
wood. Two or three layers of the oil are
an improvement and firmly set the stain.

The floor is then ready to be polished
with beeswax and turpentine. To prepare
this, spread or cut up the wax into small
pieces; put it into a gallipot, and pour suffi-
cient spirits of turpentine over it just to
cover it. Set the pot in the oven or on the
stove until the wax is thoroughly melted,
then set it aside to get cold, when it should
be of the consistency of pomatum. Put on
the wax, not too much of it, with a piece of
flannel, and polish with a polishing brush or
a big silk duster.

This mode of treating floors is quite the
best and most wholesome for bed-rooms,
which should be stained all over, under the
beds and everywhere. They can be kept
very clean and bright by a daily rubbing
with the duster and a weekly application
of beeswax and turpentine. Turpentine is
cleansing, and floors so treated do not re-
quire the weekly scrubbing which is so ob-
jectionable in cold and wet weather. Some
people object that these floors require so
much labor; but after they are once well
polished the labor is not more than scrub-
bing floors and washing oilcloths, and they
take away two-thirds of the terrors of house-
cleaning.

Those who like the more common var-
nished floors should stain the floors as above;
but instead of linseed oil a coat of size
should be laid on. This can be obtained at
the paint-shops, and should be dissolved in
boiling water to the consistency of thin
gum, and then laid on with the brush evenly,
and with the grain. When the size is per-
fectly dry and hard, it can be varnished
with one or two coats of copal or egg-shell
flat varnish. These floors require to be
dusted daily, and to have a little linseed oil
rubbed in occasionally. These require less
care than a waxed floor, but when they get
shabby they are not so readily renovated.
A flannel bag, in which the broom can be
incased, is the best floor duster, and one
most easily managed.—*Oil and Colorman's
Journal*.

Household Hints.

SOMETHING ABOUT SOUPS.—The *N. Y.
World* says: Of all soups the most common
and susceptible to variations is one in which
the stock is prepared of beef. The trouble
with the average American-prepared meat
soup is that it is too greasy and thick.
German soups are often thick, but seldom
greasy. Everything is liable to be ran across
in a Scandinavian soup, from a small sardine
to a raisin or a grain of allspice. But the
delicious French soups are always clear.

During cold weather the stock for beef
soup can be kept on hand. At any season
it should always be prepared the day before
using. The shin is a good piece for this
purpose. Have the bones well cracked and
extract the marrow, which should be put in
the soup. To each pound of lean beef
allow one quart of water. Put the beef,
bones and water into a close kettle and set
it where it will heat gradually. Let it boil
very slowly for six or seven hours. Look at
it once in a while to see if the water is sink-
ing too rapidly. Should this be the case,
replenish it with boiling water, taking care,
however, not to add too much of it. When
it has boiled seven hours, set it away and let
it stand closely covered till the next day.
Almost an hour before it is wanted for din-
ner take off the cake of fat which will be
found on the surface of the stock; remove
the meat, which can be used for mince meat

or in making a nice salad with cold potatoes and onions. Set the stock over the fire and throw in a little salt to bring up the scum. When this has all been carefully removed, put in such vegetables as may be desired. If those are out fine it is "Julian" soup. If young cabbage, quartered and boiled, and young carrots and turnips are put in whole and dished up with the soup, with the addition of toasted crasts, it is the French family soup, according to the taste. The vegetables are better when cooked by themselves and added with their juices to the soup. The seasoning, too, is a matter of taste. Vermicelli or macaroni which has been boiled tender can be added if desired.

There is no more absurd notion in regard to soup making than the idea that all sorts of scraps can be thrown into a pot and made into a good soup. A skillful cook can create a good soup from chicken or turkey bones, but for meat soup only fresh and uncooked meat must be used.

Veal soup can be prepared in a similar manner to beef soup. It is unnecessary, however, to boil the meat the day before it is wanted. Three hours is sufficient length of time for it to be over the fire. The same proportion of meat and water are used as for the beef. Be careful to skim it close, and if not clear to strain it through a colander. If macaroni is used put a little butter in with it before adding to the soup.

To make mutton or lamb broth allow, as for the preceding soups, a quart of water to a pound of meat. Boil it for two hours slowly. Add half a teacupful of cooked rice at the expiration of this time to the boiling soup. Cook one hour longer, stirring frequently to keep the rice from settling to the bottom. Beat an egg to a froth and stir into a cup of milk into which has been rubbed a tablespoonful of flour. Mix this a little at a time with some of the scalding liquor until the egg is cooked so that it will not curdle the soup. Take out the meat and put the egg and milk into the pot. Season with pepper, salt and such herbs as desired.

The most common of vegetable soups is bean soup. Any kind will do, although the best are the French beans. Soak a quart of them over night in lukewarm water. Put them over the fire next morning with one gallon of cold water. Boil for three or four hours. Add celery, onions if desired, and one or two thinly sliced potatoes. Simmer until the vegetables are done. Caraway or dill seed is a good addition to the seasoning of bean soup.

Split-pea soup can be made in the same way as bean soup, except that it requires less boiling.

Tomato soup can be made in the two following ways, and no one who has not eaten it can have any idea how good it is: To one pint of canned tomatoes or four large raw ones add one quart of boiling water. Let the vegetables boil till thoroughly mixed through the water. Then add one teaspoonful of soda, when it will foam. Immediately add one pint of milk. Put in plenty of butter, salt and pepper to taste. It is then ready to serve. Tomato soup can be made without milk. To six large tomatoes, or a pint and a half of the canned vegetables, allow one gallon of water and boil thoroughly. Add a large piece of butter. Beat an egg to a froth, add a little milk or cream and put into the soup just before it is sent to table.

Onion soup is made by frying finely sliced onions in butter and turning boiling water over them. To six good-sized onions allow a gallon of boiling water. Throw in some parsley, pepper and salt to taste. Serve with a slice of bread fried a light brown in each plate.

Pumpkin or squash soup is almost a national dish in France. Indeed, the first-mentioned vegetable is scarcely employed there for any other purpose than for soup making. To two quarts of thoroughly cooked pumpkin or squash allow one quart of milk, plenty of butter, pepper and salt. Some with toasted bread.

The Best Kind of Fancy Work.

"Fancy work?" said a trim little farmer's wife, "Oh, yes, I do a great deal of fancy work. It is a kind that will last and has more use than ornament."

I looked about the neat cheerful dining-room—the lamps, glistening brightly, were resting on white oil cloth mats bound with green braid; on either side the tiny clock, a choice fruit picture hung opposite my place at table; the motto, "In everything give thanks," occupied a cosy niche between the two windows at the lower end of the room and beneath it a basket of variegated wandering Jew trailed its delicate vines to the floor. I viewed the white curtains looped back with bright ribbons, and turned my gaze again to the tea table without catching her meaning.

She smiled brightly and glanced at her rosy girl of five summers, and her romping three-year-old-boy—"Here it is," she said, as she patted their dimpled cheeks and stroked their smooth curls, as they passed by her for a play in the bright sitting room.

"Did you notice," she continued, "the clear skin, white teeth, and healthy appearance of Rose and Roy? Did you observe what a plain supper they ate and how they seemed to relish it—brown bread, fresh butter, yellow peaches, and graham mush daintily molded, accompanied with white sugar and sweet cream? Some children would have scowled at such a fare, but I spend so much time making everything perfectly neat and pleasant to the eye, that they never seem to long for a richer diet. I study a great deal to find out what kind of food is best to develop the most vigorous bone, muscle and brain. Last summer and fall we almost lived out of doors. We sorted apples and potatoes for market, gathered tomatoes and beans, fed the poultry, worked at the dairy, took charge of the bees, etc. Oh! the questions they would ask, and how glad I was to be near them, to teach them from Nature. Don't you think that it was better for me thus to be training these little ones God has given me than to have sent them off to play alone and shut myself up in my room and grow pale and peevish over tiresome fancy work? Perhaps you notice my new rugs and the pretty slipper case in the sitting-room. Well, our help saved husband; the hiring of an extra boy, though it was little else but play for us, and he allowed us \$10 a month, so I hired poor lame Annie Lee to make those for me, it does her so much good to earn something.

The lesson I gleaned from this sensible little lady's talk was: "Don't neglect family for fancy work."—*Woman at Work.*

The Fat Cattle Show at Chicago.

The 7th Annual Fat Cattle Show took place at Chicago, on the 11th of November, and lasted several days. The reports of the exhibition show that with more perfect arrangements in every detail, it was the most successful one yet held, although perhaps there were not so many animals as have been on hand in some former years.

The show is patterned after the Smithfield cattle show and is therefore designed primarily as an exhibit of butchers' stock, and not of horses or breeding cattle, these two classes forming an addition merely. Stockmen declared that even at Smithfield a finer exhibition was never made. Interest of course was chiefly centred in the show of Short-horns, Herefords and Polled Angus cattle and their grades, though a fine herd of Holsteins, from Thomas B. Wales, Jr., of Iowa City, the only specimens of that breed on exhibition, attracted a great deal of attention. Sheep and swine were not as numerous as in some former years, the former counting but 59 head and the latter 69.

The entries by lots were as follows: Short-horns, 26; Herefords, 14; Aberdeen-Angus;

5; Holstein or Friesian, 2; Grades or crosses, 127; By Pens, 105; For Slaughter, 23; Heaviest Fat Steer, 4.

Two grade Short-horns, owned by J. H. Potts & Son, weighed respectively 2,325 lbs. and 2,111 lbs. Grand Chunk, grade Short-horn, owned by T. W. Harvey, weighed 2,328 lbs. Charley Ross, owned by John Ross, Bucyrus, O., 2,265. The Hereford steer, Hoosier, owned by Adams Earle, 2,075 Fowler & Van Natta showed two grade Herefords weighing 2,300 and 2,150 lbs.

A regulation of the exhibition, adopted for the first time this year, provided that all cattle that take sweepstake prizes must be slaughtered, and compete for the carcass prizes, although other cattle may compete for the carcass prizes, too. This is done to compel a comparison of the same animals both alive and dead, and twenty-six animals were slaughtered by experts.

In connection with the show numerous meetings of stock breeders' associations were held.

At the meeting of the National Veterinary Medical Association, the subject of pleuropneumonia in cattle was treated in a formal paper by Dr. Hughes, and an informal discussion by most of the veterinarians present, who were gathered from all parts of the country, and are doubtless to be considered a fair representation of the intelligent practitioners in their line. According to the *Chicago Tribune* the prevailing opinion among the veterinarians was that very few cases of the genuine disease have ever existed in this country, and that many valuable cattle had been slaughtered under authority of official orders, which were suffering from ordinary complaints.

The ladies appear to have made a good appearance for the sheep department. The exhibitors were: Southdown, J. H. Potts & Son, Mrs. Ann Newton, Pontiac, Mich.; B. Waddell, Marion, O. Other Downs, Mrs. Ann Newton, B. Waddell, Frank Wilson, Jackson, Mich.; Stone & Loake, Stonington, Ill.; Geo. Allen & Son, Archie, Ill. Cotswold, Stone & Loake, Mrs. Newton, B. Waddell, Frank Wilson; Leicester & Lincoln, Mrs. Newton.

The following were the awards on cattle as reported by the *Country Gentlemen*:

PURE SHORT-HORNS.

Steer or spayed heifer, 3 years—1. Canada West Farm Stock Association, Brantford, Ont., steer Clarence Kirklevington, 1,372 days, 2,400 lbs.; 2. T. W. Harvey, Turlington, Neb., steer Snowflake, 1,210 days 2,202 lbs.; 3. T. W. Harvey, cow Young Mary of Turlington, 1,380 days, 1,850 lbs.

Two years—1. Morrow & Renick, Clintonville, Ky., steer Bedford No. 1, 1,038 days 1,708 lbs.; 2. Morrow & Renick, steer Weathers, 1,033 days, 1,750 lbs.; 3. Morrow & Renick, steer Schooler, 1,061 days, 1,912 lbs.

One year—1. Morrow & Renick, steer Swift, 625 days, 1,370 lbs.; 2. B. Waddell, Marion, O., steer Orio, 597 days, 1,195 lbs.; 3. J. H. Potts & Son, Jacksonville, Ill., steer Frank, 541 days, 1,270 lbs.

PURE HEREFORDS.

Three years—1. Fowler & Van Natta, Fowler, Ind., Artless, 1,374 days, 1,560 lbs.; 2. Adams Earle, Lafayette, Ind., Hoosier, 1,889 days, 2,075 lbs.

Two years—1. Indiana Blooded Stock Co., Indianapolis, Prince, 996 days, 1,860 lbs. 2. Same, Suspense, 902 days, 1,775 lbs. 3. Same, Cornwall, 954 days, 1,692 lbs.

One year—1. Indiana Blooded Stock Co., Rosy Duke, 655 days, 1,250 lbs.; 2. Same, Tidy Boy, 668 days, 1,220 lbs.; 3. Fowler & Van Natta, Tempest, 666 days, 1,300 lbs.

ABERDEEN-ANGUS.

Three years—1. M. H. Cochrane, Compton, Can., Netherwood Jock, 1,404 days, 1,890 lbs.

One year—1. T. W. Harvey, Turlington, Neb., Paris Favorite, 684 days, 1,816 lbs. 2. Indiana Blooded Stock Co., Blaine, 410 days, 1,125 lbs.; 3. Same, Logan, 400 days, 975 lbs.

HOLSTEIN OR FRIESIAN.

Three years—3. T. B. Wales, Jr., Iowa City, Iowa, Tommaline, 1,338 days, 1,450 lbs.

Two years—2. Lucien Scott, Leavenworth, Kansas, Gottlieb, 683 days, 1,800 lbs.

GRADES OR CROSSES.

Three years—1. John Ross & Son, Bucyrus, Ohio, Charley Ross, 1 Short-Horn, 1,250 days, 2,265 lbs. 2. J. H. Potts & Son, Porter, 1 Short-Horn, 1,340 days, 2,165 lbs. 3. Fowler & Van Natta, Benton, Champion, 1 Hereford, 1 Short-Horn, 1 Native, 1,301 days, 2,306 lbs.

Two years—1. Morrow & Renick, Eales, Short-Horn, 1,053 days, 2,048 lbs. 2. Indiana Blooded Stock Co., Tuck, 1 Hereford, 911 days, 1,740 lbs. 3. Adams Earle, Shadeland, 1 Hereford, 1 Short-Horn, 1 Native, 876 days, 1,760 lbs.

One year—1. Fowler & Van Natta, Joseph, 1 Hereford, 1 Short-Horn, 1 Native, 1,053 days, 1,530 lbs. 2. J. R. Peak & Son, Winchester, Ill., Roan Boy, 1 Short-Horn, 612 days, 1,240 lbs. 3. Potts & Son, Red Cloud, 1 Short-Horn, 598 days, 1,385 lbs.

Under one year—1. J. R. Price, Williams-ville, Ill., Lindall, 1 Hereford, 1 Short Horn, 1 Native, 350 days, 920 lbs. 2. Indiana Blooded Stock Co., Photograph, 1 Native, 1 Short-Horn, 1 Hereford, (so in catalogue), 302 days, 752 lbs. 3. T. C. Ponting, Moweaqua, Ill., John Yeomans, 1 Hereford, 1 Native, 325 days, 965 lbs.

CATTLE—ANY BREED.

Three years—Fowler & Van Natta, Fowler, Ind. Benton's Champion, 1 Hereford, 1 Short-Horn, 1 native, 1,301 days, 2,300 lbs.

Two years—John P. Gillett, Elkhart, Ill., Barney, 15-16 Short-Horn, 1,074 days, 1,954 lbs.

One year—J. R. Peak & Son, Winchester, Ill., Roan Boy, 1 Short-Horn, 612 days, 1,240 lbs.

SWEEPSTAKES.

Short-Horns—Canada West Farm Stock Association, Bradford, Ont., Clarence, Kirklevington.

Hereford—Indiana Blooded Stock Co., Indianapolis, Prince.

Aberdeen-Angus—M. H. Cochrane, Compton, Can., Netherwood Jock.

Grades or Crosses—John Ross & Son, Bucyrus, O., Charley Ross, 1 Short-Horn.

Grand Sweepstakes, Best in Show—Canada West, F. S. A., Clarence Kirklevington, pure Duchess Short-Horn, 1,372 days, 2,400 lbs.

Gold Medal given by Breeder's Gazette, animals bred by the exhibitors—Fowler & Van Natta, Fowler, Ind., Benton's Champion, 1 Hereford, 1 Short-Horn, 1 native.

LOTS OF FIVE HEAD ANY BREED.

Three years—1. John D. Gillett. 2. C. S. Barclay, West Liberty, Iowa.

Two years—1. Fowler & Van Natta. 2. Morrow & Renick, Clintonville, Ky.

One year—1. J. H. Potts & Son, Jacksonville, Ill. 2. Fowler and Van Natta.

DRESSED CARCASSES.

Three years, Jas. R. Anderson, Anderson, O., Chicago, Short-Horn. Two years, Aberdeen-Angus Association, Independence, Mo., Abernethy. One year, M. H. Cochrane, Compton, Can., Quality 1 Aberdeen-Angus, 1 West Highland, 1 Short-Horn. Under one year, T. C. Ponting, Moweaqua, Ill., John Yeomans, 1 Hereford.

Best dressed carcass, any age—Clarence Kirklevington.

Heaviest Fat Steer—1. John B. Sherman, Chicago, Tiny Tim, 1 Short-Horn, 1 Na-

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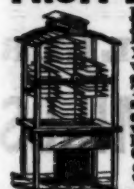
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Containing 150 acres; about 25 to 30 acres in thriving timber, principally oak and chestnut; well watered and admirably adapted to a dairy or market farm; the soil is kind and susceptible of the highest improvement; it is now principally set in grass. It is at the 15-mile stone on the York turnpike, fronting on both sides of the road, and five stations on the Northern Central R. R.; can be reached at distances of 1 to 3 miles, by good county roads. This is the circle of the members of the Gunpowder Club, and is undoubtedly one of the best locations in the county. Churches of all denominations, and schools, public and private, are convenient. The York turnpike is one of the very best, and the distance from the city permits a round-trip a day for wagoning. Probably no healthier spot in the world can be found. It is laid off in fields of 12 to 15 acres, to most of which easy access is had to water for stock. The dwelling, which is commodious, and large barn, are of stone, with other outhouses, and though old, can be made very comfortable at a reasonable expense; and there are several admirable sites for residences on the premises. This property could be advantageously divided into small lots and sold at a very great advance on the price asked for the whole. Lots on the road have brought as high as \$500 an acre, and the extent of the frontage on the turnpike, in the hands of an enterprising man, could be turned to excellent account, but the present owner is indisposed to take the trouble requisite to accomplish this, and would prefer selling the whole together. A gentleman with a very small income independent of the farm, could live on this place without labor, saving the rent of a city residence, by renting the fields on shares to be farmed under his control, reserving a garden and stabling, and the pasturage necessary for his stock. A small tenant's house on the premises would rent for the amount of taxes on the place. As I cannot occupy the place myself, I am willing to sell it on the most reasonable terms, or exchange it for city property in a good locality. For further particulars apply to the subscriber, at office of *American Farmer*. **SAM'L SANDS.**

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NEW EARLY PEACH, BARTLETT
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Send for Full Description.
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"MARY'S KIRKLEVINGTON PRINCE,"—Red and white; calved January 15th, 1888. Bred by E. B. Emory, Centerville, Md., by Kirklevington Lad 80638. Dam Sharon Belle 3rd 6167. Belle Sharon 3rd 87681. Price \$150.

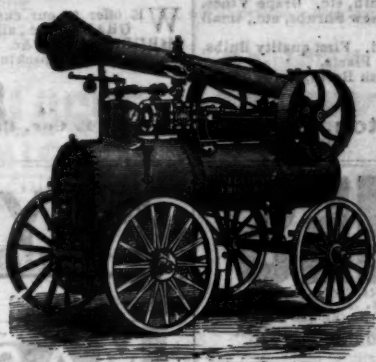
AND ONE BULL CALF. ROAN, BRED BY ME. Calved March 6th, 1894, by Kirklevington Lad 80638. Dam Catherine Princess by Emory's Roan Duke 82573. Price \$50.

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CHEMISTS AND ASSAYERS,
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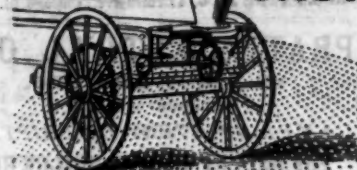
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ARE prepared, with great care, from medical plants; are coated with sugar, that they may be taken by the smallest child and upon the most delicate stomach; are intended especially to act upon the Liver, thereby relieving all such diseases as COSTIVENESS, HEADACHE, PARALYSIS, DYSPEPSIA, COLDS, JAUNDICE, and all diseases of a bilious origin. No better evidence can be offered in favor of these Pills than the very fact that where their ingredients are known to family physicians, they are using them in their private practice. We append the following from one of our most prominent physicians:

OAKLAND, June 26, 1899.—Dr. Gilpin: After carefully examining the formula of your Sugar-Coated Pills, I feel it but justice to say that the combination is certainly perfect, and comprises the only remedies I ever believed were the proper ones to be used in diseases of a bilious origin. I shall take pleasure in recommending them, not only to my patients but the entire medical profession. Yours truly, J. M. WISTAR, M. D.

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WESTON, W. VA., June 18, 1899.—Messrs. Canby, Gilpin & Co.—Gents: Please send by express twelve dozen Gilpin's Vegetable Liver Pills. I have the most flattering accounts from all who have used them, and believe the day is not far distant when they will supersede all others. Yours, F. M. CHALFANT.

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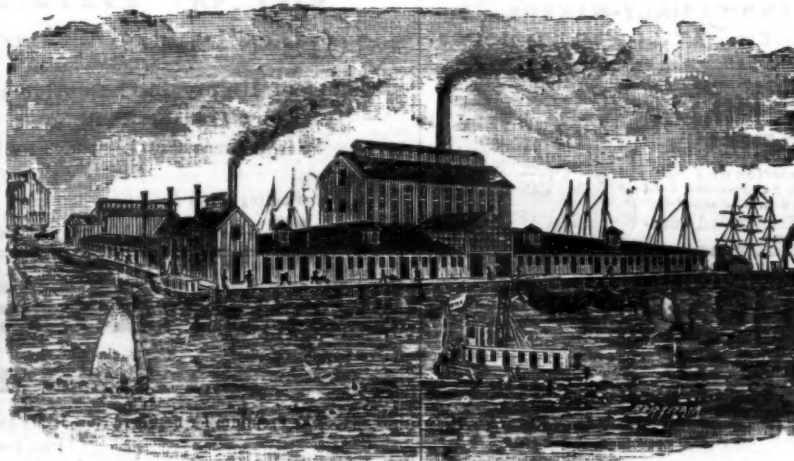
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